

Tuscaloosa County Park & Recreation Authority



Project: Ballfield Lighting

Bid: 07-26

For: McDonald Hughes Park

(2026)

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STATE OF ALABAMA)
TUSCALOOSA COUNTY)

PARA PUBLIC WORKS CONTRACT DOCUMENTS

**SECTION ONE
ADVERTISEMENT AND NOTICE FOR BIDS
(2026)**

Sealed bids will be received by PARA, a Public Corporation, at the McDonald Hughes Community Center at 3101 Martin Luther King Blvd, Tuscaloosa, AL 35401, on September 16, 2026, until 10 a.m., local time, and then publicly opened and read for the furnishing of all labor and materials for performing a public works project according to the specifications and Contract Documents.

The contract award will be made within seven (7) calendar days from the bid opening.

1. The Project:

- A. The Project shall be known as Bid #07-26 McDonald Hughes Park Ballfield Lighting, and the general character of said public works project shall consist of the following: Provide and install light fixtures, mounting hardware, associated wiring, and controls for three baseball/softball fields. A pre-bid meeting is scheduled for September 9, 2026, at 10 am.
- B. Time of Completion: 120 days

2. Plans and Specifications:

Specifications and all related Contract Documents can be obtained electronically from Taylor Lopez by emailing tlopez@tcpara.org.

3. Qualification of Bidders:

- A. All bidders must be responsible for meeting the criteria and requirements outlined in the Instructions to Bidders and the bid proposal.
- B. Prequalification of Bidders is not required.
- C. The attention of all bidders is called to the provisions of State law governing "General Contractors," as outlined in Ala. Code §34-8-1, et seq. (1975), and rules and regulations promulgated pursuant thereto.
- D. If a Program Manager is being utilized and this contract is one of multiple trade contracts, then the bidder shall be fully licensed for the trade, as determined by applicable law.
- E. PARA may not enter a contract with a non-resident corporation or entity not qualified under State law to do business in the State of Alabama.

- F. All bidders shall possess all other licenses and/or permits required by applicable law, rule, or regulations for the performance of the work.
- G. All bidders must submit their proposal, the Contractor's license number, and a copy of the license: state law, Ala. Code §34-8-8(b) requires that all bids that do not include the General Contractor's current license number be rejected.
- H. All bidders must have performed at least six (6) projects of this size and scope.
- I. PARA reserves the right to reject all bids and/or reject and rebid the Project should it determine the same is in PARA's best interest.

4. Bid Bonds: Each bidder must submit with its bid a cashier's check drawn on an Alabama bank or a fully executed bid bond on the form that is contained in the Contract Documents, executed by a surety company duly authorized and qualified to make a bond in the State of Alabama. All bonds, sureties, and/or cashier's checks will be made payable to PARA for an amount not less than 5 percent of PARA's or its engineers' or architects' estimated cost of the Project or the total bid in the proposal, but in no event more than \$10,000.00.

5. Sales and Use Tax Savings: All tax-exempt purchases shall be in accordance with the laws of this state and the Alabama Department of Revenue. In the opinion of the Alabama Department of Revenue, it is the sole responsibility of the successful contractor to make the necessary inquiries and determinations regarding which materials or items of tangible personal property to be incorporated into the project qualify for tax exemption. If needed, a letter of exemption and certificate will be supplied to the contractor.

6. Pre-Bid Conference: September 9th at 10 am CST at the McDonald Hughes Community Center.

PARA
Brian Davis, Chief Executive Officer
[END OF ADVERTISEMENT FOR BID]
PARA PUBLIC WORKS CONTRACT DOCUMENTS

**SECTION TWO
INSTRUCTION TO BIDDERS
(2026)**

NOTE: THIS DOCUMENT CONTAINS IMPORTANT BIDDING AND CONTRACTING INFORMATION. ALL POTENTIAL BIDDERS SHOULD READ IT THOROUGHLY

1. Intention: The Advertisement for Bids, Instruction to Bidders, Contract Agreement, any modifications or supplemental conditions to the Contract Agreement, Bid Proposal, and the Plans and Specifications are interrelated and apply to the complete work they relate.

2. Definitions: Where the following words, or the pronouns used in their stead, occur herein, they shall have the following meaning:

"Awarding Authority" shall mean PARA.

"Bidder" shall mean any person, firm, or corporation that is responsible, submitting a responsive bid for the Project contemplated by the contract documents, which meets the requirements outlined in the contract documents, maintains a permanent place of business, has adequate forces and equipment to perform the work on the Project correctly and within the time limit that is established, has sufficient experience in the type work provided for in the contract documents and has adequate financial status and resources to meet its obligations contingent to work.

"PARA" or "Owner" shall mean PARA, as the awarding authority or its authorized and legal representatives.

"Program Manager" shall mean the person or entity employed by PARA to provide Program Manager services for the work or Project.

"Contractor" shall initially mean the successful or probable low bidder, and thereafter the first party to the construction agreement or the legally authorized representatives of such party, including a trade contractor.

"Engineer/Architect" shall mean an engineer or architect responsible for the design and related services of the project. If no Program Manager is employed, the Engineer is PARA's representative on the Project. References to the "Engineer" shall mean the Program Manager, if PARA has employed such services, to the extent such services apply to project management activity as outlined in the agreement between PARA and the Program Manager, and the context herein indicates that it would relate to services traditionally and customarily performed by a Program Manager; otherwise, "Engineer" shall refer to the Engineer or Architect.

"Force Account Work" work paid for by reimbursement of the actual cost of labor, materials, and equipment usage incurred in the performance of the work, as directed, including a percentage for overhead and profit where appropriate.

"Gender": a word importing one gender shall, if appropriate, extend to and be applied to the other gender. The masculine shall include the feminine and vice versa unless the context indicates otherwise.

"Inspector" shall mean a representative of the Engineer/Architect, Program Manager, or PARA.

"Non-Resident Contractor" shall mean a contractor that is neither (a) organized and existing under the laws of the State of Alabama nor (b) maintains its principal place of business in the State of Alabama. A non-resident contractor that has maintained a permanent branch office within the State of Alabama for at least five (5) continuous years shall not thereafter be deemed a non-resident contractor so long as the contractor continues to maintain a branch office within Alabama.

"Project" shall mean the Public Work to which these Contract Documents relate, including the labor, materials, and all work to be done by the Contractor that is the subject of the bid, plans, specifications, and contract documents.

"Public Property" Real property which the awarding authority owns or has a contractual right to own or purchase, including easements, rights-of-way, or otherwise operates under Funding Agreements for and on behalf of a governmental entity.

"Public Work(s)" shall mean a Project consisting of the construction, repair, renovation, or maintenance of public buildings, structures, sewers, water works, roads, bridges, docks, underpasses, and viaducts, as well as any other improvement to be constructed, repaired or renovated or maintained on Public Property to be paid, in whole or in part, with public funds or with financing to be retired with public funds in the form of lease payments or otherwise.

"Responsible Bidder" shall mean a bidder who, among other qualities determined necessary for performance, is competent, experienced, and financially able to fulfill the contract.

"Responsive Bidder" shall mean a bidder who submits a bid that complies with the terms and conditions of the invitation for bids, including plans, drawings, specifications, and other provisions of the contract documents.

"Retainage" shall mean that money belonging to the Contractor has been retained by the awarding authority, conditioned upon completion and acceptance of all work in connection with the Project.

"Singular/Plural." The singular shall include the plural and vice versa unless the context indicates otherwise.

"Trade Contracts," "Trade contracts," or "multiple prime contracts" are multiple but separate contracts with PARA on the same Project that represent significant construction activities performed concurrently with and closely coordinated with construction activities performed on the Project under other trade contracts.

"Unbalanced Bid" Unbalanced bids may be considered non-responsive and subject to rejection. An unbalanced bid includes, but is not limited to, one that results in a substantial advance payment to the contractor.

3. Work to be Performed: PARA contemplates the construction of a public works project as generally described in the Advertisement for Bid and as more particularly described, shown, and depicted on the plans, specifications, drawings, and contract documents.

4. Bidding, Generally:

- A. All bids must be made upon the bid proposal forms contained in the contract documents, and all blanks shall be properly filled in and the bid proposal executed as required.
- B. Any bidder may withdraw his or its bid, either personally or by telegraphic or written request (not by facsimile), at any time before the scheduled opening time for receipt of bids, except as provided in Ala. Under Code §39-2-11(b)(c)(d), no bid may be withdrawn after the opening of bids until the time for returning bid bonds as provided herein.
- C. Any unauthorized conditions, limitations, or provisos attached to the bid proposal, except as otherwise provided herein, will render a bid proposal informal and may cause its rejection. Unbalanced bids may be subject to rejection. Bids without the General Contractor's license number and a copy of the license will be rejected.
- D. All bids will be opened to the public at the time and date specified in the Notice of Advertisement for bids unless otherwise altered by addendum. All bidders are invited to attend the bid opening. No bids will be received after the time established for opening bids.
- E. E. All bids must be enclosed in a sealed envelope addressed to PARA, Attn: Taylor Lopez, 3101 Martin Luther King Blvd, Tuscaloosa, AL 35401. All bids must be marked to indicate the Project to which they apply and include the following language: "Bid Enclosed", Bid Name and number, Company's Name, and the current General Contractor's license number. The license number must be displayed on the bid and in the sealed envelope.

5. Responsible, responsive bidders: PARA reserves the right to reject any bid submitted by a bidder determined by PARA not to be a responsible bidder or whose bid proposal is not responsive.

In determining whether a bidder or bid is responsible and/or responsive, PARA reserves the right to also request and consider the following factors:

- A. Types or kinds of materials or items best suited to PARA's needs for the Project.
- B. A current financial statement of the bidder and/ or bonding capability or limits.
- C. An accurate inventory of equipment to be used on the Project, a list of key personnel to be used on the Project, and detailed histories of their experience.
- D. A list of similar work performed by any person, firm, or corporation with the same name as the name or any of the names in the bidder's proposal within the last five (5) years.
- E. A list of six (6) references familiar with the bidder's competence, experience, capabilities, skill, and integrity.

- F. A statement from the bidder about bankruptcies, judgments, liens, or litigation within the last five (5) years. Such a statement shall also apply to each company, officer, and key personnel on the Project.
- G. The General Contractor's State license number and class.
- H. Bidder's performance and prosecution of past projects for PARA.
- I. An unbalanced bid.
- J. Other information supplied in the bid proposal.

PARA may make such investigations as it deems necessary to determine the ability of Bidder to perform the work, and the Bidder shall furnish PARA with all such information and data for this purpose as PARA may request. PARA reserves the right to reject any Proposal if the evidence submitted by, or investigation of, such Bidder fails to satisfy PARA that such Bidder is properly qualified to carry out the obligations of the Contract and complete the work contemplated therein.

6. Bid Bonds: Each bidder must submit with its bid a cashier's check drawn on an Alabama bank, made payable to PARA, or a fully executed bid bond on the form that is contained in the contract documents, executed by a surety company duly authorized and qualified to make a bond in the State of Alabama. All bonds and/or cashier's checks will be made payable to PARA for an amount not less than five (5) percent of PARA's or its engineers' or architects' estimated cost of the Project or the total bid in the proposal, but in no event more than \$10,000.00.

The price or cost of all items bid on shall remain in effect for a period of fifty (50) days after the Notice of Award.

7. Return of Bid Bonds: All bid bonds, except those of the awarded bidder, will be returned immediately after bids have been checked, tabulated, and the relation of the bids established

8. Forfeiture of Bid Bonds: Should the successful bidder to whom a contract is awarded fail to execute a contract(s) and furnish acceptable contract securities and evidence of insurance, PARA may retain the proposal guaranty if it is a cashier's check or recovers from the principal or the sureties if the guaranty is a bid bond, the difference between the amount of the contract as awarded, and the amount of the proposals of the new lowest bidder. If no other bids are received, the total amount of the proposal guarantee may be retained and recovered as liquidated damages for such default. Any sum so retained or recovered shall be the property of the awarding authority.

9. Consideration of Bid Proposals:

- A. Generally: The contract will be awarded to the lowest responsible and responsive bidder unless PARA determines that all the bids are unreasonable or that it is not in PARA's best interest to accept any of the bids.

Award of the contract will be made based on the lowest actual bid amount, defined as the total of the bid and/or extended total amounts for unit-price items, plus requested and accepted additive or deductive alternates, pursuant to the provisions hereof.

PARA reserves the right to reject all bids and/or to reject and rebid the Project should it determine that doing so is in PARA's best interest.

- B. Minor irregularities, as determined by PARA or its representatives, will not cause a bid to be non-responsive and may be waived by PARA.
- C. Bidders must possess all licenses and permits required by applicable law, rule, or regulation for the performance of the work before bidding.
- D. Where PARA elects to prequalify contractors before bidding, it shall be understood that such prequalification may be general and shall not limit PARA's right to revoke such prequalification pursuant to Ala. Code §39-2-4(d) (1975).
- E. Joint ventures shall not generally be considered acceptable bids.
- F. Additive and/or Deductive Alternates: If PARA has elected to request bids for additive and/or deductive alternates, then the following procedure shall be the basis for calculating such bids:
 - 1) Deductive Alternates: Any deductive alternate from the base bid shall constitute cumulative deductions from the base bid, and in determining the lowest bidder, if PARA elects to consider any deductive alternates, PARA will proceed to consider the bids upon the basis of the base bids of all qualified bidders minus the respective deduction stated for the first alternate. If PARA determines that it wishes to proceed to consider additional deductive alternates. In that case, it may do so sequentially and in like manner throughout the deductive alternates PARA elects so that the base bids of all qualified bidders shall be calculated minus the respective number of deductive alternates in sequence that PARA has elected to consider. The lowest responsible responsive bid will be the lowest actual base bid of a qualified bidder, less the selected sequential deductive alternates.
 - 2) Additive Alternates: To determine additive alternates, any additive alternate shall constitute cumulative additions to the base bid; and in determining the lowest bidder, if PARA elects to consider any additive alternates, PARA will proceed to consider the bids upon the basis of the base bid of all bidders plus the respective addition stated for the first alternate. If PARA determines that it wishes to proceed to consider additional additive alternates, it may do so sequentially, and in like manner, throughout the additive alternates, PARA elects so that the base bids of all qualified bidders shall be calculated plus the respective number of additive alternates in sequence PARA has elected to consider. The lowest responsible, responsive bid will be a qualified bidder's lowest actual base bid, plus the selected sequential additive alternates.

Once PARA has determined the lowest responsible, responsive bidder as set forth herein, it may award the contract based on accepting and/or rejecting any additive and/or deductive alternates of that bid as it determines is in PARA's best interest.

- G. No Bids or Only One Bid: In the event that no bid proposals or only one bid proposal is received in response to PARA's Advertisement for Bids at the time stated for the opening of bids, PARA may elect at its discretion, any of the following options:

- 1) Advertise for and seek other competitive bids.
- 2) Direct that the work be done by force under its direction and control.
- 3) Negotiate for the work through the receipt of informal bids. However, if only one responsible and responsive bid has been received, any negotiation for the work shall be for a price lower than that bid.

H. An Unbalanced Bid.

10. Materials and Work: All materials will be installed as shown on the drawings, plans and/or specs.

- A. Brand names, catalog numbers, weights, etc., are used to indicate levels of quality only and are not intended to restrict the bidding. If bidding on an item of a brand or manufacturer other than that specified, the bidder's proposal should be accompanied by brochures or other pertinent literature providing detailed specifications of the item(s) for which the proposal is being made. Bids or proposals received without enough literature to determine equal quality may not be considered. PARA will make the final determination as to equal quality.
- B. Quantities: The quantities shown in the proposal shall be considered by the contractor as the quantities required to complete the work for the purpose of bidding. Should the actual quantities required for the construction of the work be greater or less than the quantities shown, an amount equal to the difference in quantities, at the bid unit prices for the items, will be added to or deducted from the contract total.
- C. Adjustment Items: During work, the prices bid for adjustment items may be used by PARA to increase or decrease the total cost of the work if the quantity of work exceeds or is less than the amount shown on the plans.
- D. Construction Crews: The Contractor will be required to furnish at least one separate construction crew during the work as set forth in the contract. Unless waived by PARA, the Contractor shall perform at least fifty percent of the total amount of the work under this Contract on the sites and with his organization and equipment. The Contractor may subcontract no more than fifty (50%) percent of the work without PARA consent. If, during the progress of the work hereunder, the Contractor requests a reduction of such percentage, and the PARA representative determines that it would be to PARA's advantage, the percentage of the labor required to be performed by the Contractor's own organization may be reduced; PROVIDED prior written approval of such reduction is obtained by the Contractor from PARA.

NOTE: Bidders are advised to carefully review all other elements of the contract documents for more details on the requirements for performing work on the Project.

11. Execution of Contract, Notice to Proceed: The contract award will be made within the time specified after the opening of bids.

The bidder to whom the award is made shall enter a written contract for the Project with PARA on the forms provided in the contract documents, furnish the required performance and labor and material

bonds with proper surety, and furnish the evidence of insurance as required, all within seven (7) days of presentation of the prescribed forms to the bidder. If extenuating circumstances prevail, PARA may grant an extension of time not exceeding five (5) days for the return of the contract, required bonds, and evidence of insurance.

A notice to proceed with the order will be issued by PARA or its representatives within seven (7) days after PARA's final execution of the contract. The Contractor shall begin work on the date specified in the Notice to Proceed.

12. Labor, Material and Performance Bonds: Within thirty (30) days after the prescribed forms have been presented, the successful bidder shall execute a performance bond with good and sufficient surety from a company duly authorized and qualified to make such bond in the State of Alabama, a performance bond made payable to PARA, with a penalty equal to 100 percent of the amount of the contract price and in addition thereto, another bond with good and sufficient surety by a surety company duly authorized and qualified to make such bond in the State of Alabama, payable to PARA, in an amount equal to 100 percent of the contract price with an obligation that such contractor shall promptly make payments to all persons supplying it or them with labor, materials or supplies for or in prosecution of the Project provided for in such contract and for the payment of reasonable attorney's fees incurred by any successful claimants or plaintiffs in civil actions on said bond, pursuant to the provisions of Ala. Code §39-1-1 (1975).

13. Surety and Insurer Qualifications: All certificates of insurance and bonds (furnished in connection with the work to be performed under this contract) shall be countersigned by a licensed agent residing and engaged in doing business in the State of Alabama. The surety and insurer shall be licensed and authorized to do business in the State of Alabama. The surety companies on bonds shall be rated A- or better by A. M. BEST and listed on the United States Treasury Department 570 list.

14. Power-of-Attorney: The attorney-in-fact (resident agent) who executes the performance bond and payment bond on behalf of the surety must attach a notarized copy of his or her power-of-attorney as evidence of his or her authority to bind the surety on the date of execution of the bonds. Certification by a resident agent authorized to do business in Alabama is required.

15. Insurance: The successful contractor shall file with PARA, when the signed contract is delivered, satisfactory evidence of insurance and the requirements as outlined in the contract agreement. Satisfactory evidence of insurance shall include, at a minimum, the insurer's standard "Certificate of Insurance" (modified pursuant to the contract agreement's insurance requirements) and the agent's insurance verification as required by Section 26. If PARA deems additional evidence or clarification of insurance, etc. appropriate, the bidder shall promptly furnish the same to PARA upon request.

16. Examination of Contract Documents and the Site of the Project: Before submitting a bid proposal for the Project, each bidder shall carefully examine the Contract Documents, including but not limited to plans, drawings, specifications, contract, etc., visit the site, and satisfy itself as to the nature and location of the Project, and the general and local conditions, including weather, the general character of the site or building, the character and extent of existing work within or adjacent to the site, any other work being performed or proposed thereon at the time of submission of their bids. It shall obtain full knowledge of the transportation, disposal, handling, and storage of materials; the availability of water, electric power, and all other facilities in the area that will have a bearing on the performance of the Project for which they submit their proposals. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and visit and has judged for and satisfied himself as to conditions to be

encountered regarding the character, difficulties, quality, and quantities of work to be performed and the material and equipment to be furnished, and as to the contract requirements and contingencies involved. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction all information concerning site and surface conditions.

17. Subsurface Reports: Prior to Bid opening, PARA will make available to prospective Bidders, upon request, any information that it may have as to subsurface conditions and surface topography at the work site. Investigations of subsurface conditions were made for the purpose of study and design, and neither PARA nor its consultants that performed such testing assume any responsibility whatsoever in respect to the sufficiency or accuracy of borings, or of the logs of test borings, or of other investigations that have been made, or of the interpretations made thereof, and there is no warranty or guarantee, either expressed or implied, that the conditions indicated by such investigations are representative of those existing throughout such area, or any part thereof, or that unforeseen developments may not occur.

Logs of test borings, geotechnical reports, or topographic maps showing a record of the data obtained by the investigations of surface and subsurface conditions that are made available shall not be considered a part of the Contract Documents and are available only for the convenience of the Bidders. Such logs and reports represent only the opinion of the Engineer/Architect or Consultant regarding the character of the materials encountered during his investigations of the test borings.

Information derived from the inspection of logs of test borings or pits, geotechnical reports, topographic maps, or Drawings showing the location of utilities and structures will not in any way relieve the Contractor from any risk or from properly examining the site and making such additional investigations as he may elect, or from properly fulfilling all the terms of the Contract Documents.

PARA shall not be responsible for any interpretations or conclusions drawn from any subsurface exploration reports or borings. Each bidder is to base his bid upon his determination of the subsurface conditions and of the types and quantities of material to be encountered or needed. Additional tests or other exploration operations may be done at no cost to PARA.

18. Interpretation of Plans and Specifications: If any bidder contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of plans, specifications, or other proposed contract documents, he may submit to the Engineer/Architect or Program Manager, as the case may be, a written request for an interpretation thereof at least ten (10) days before bid opening. The bidder submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by a written addendum duly issued, and a copy of such addendum will be mailed or delivered to each person receiving such documents. PARA, Program Manager, or Engineer/Architect will not be responsible for any other explanations or interpretations of the proposed documents.

19. General Contractor's Permit or License: The attention of all bidders is called to the provisions of the State law governing general contractors as set forth in Ala. Code §34-8-1 et seq. (1975), particularly about the need for and evidence of a State general contractor's license. The statute's provisions are adopted herein by reference and form a part of the Contract with the selected bidder should this Project be awarded.

20. In State Bidder Preference: Pursuant to Ala. Code §39-3-5 (1975), in the letting of public contracts in which State or subdivision funds are utilized, except those contracts funded in whole or in part with funds

received from a federal agency, preference shall be given to resident contractors, and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded Alabama public contracts only on the same basis as the nonresident bidders' state awards contracts to Alabama contractors bidding under similar circumstances; and resident contractors in Alabama, as defined in Ala. Code §39-2-12 (1975), be they corporate, individuals, or partnerships, are to be granted preference over nonresidents in awarding contracts in the same manner and to the same extent as provided by the laws of the state of the domicile of the nonresident.

Nonresident bidders must accompany any written bid documents with a written opinion of an attorney-at-law licensed to practice law in such nonresident bidder's state of domicile as to the preferences, if any or none, granted by the law of that state to its business entities whose principal places of business are in that state in the letting of a public contract.

21. Applicable Laws: Each Bidder shall inform himself of, and the Bidder awarded a contract shall comply with federal, state, and local laws, statutes, and ordinances related to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, the use of domestic products, U.S. steel and resident labor, non-discrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, burning and non-burning requirements, permits, fees, and similar subjects. Certain statutory requirements are summarized immediately hereinafter. The attention of all bidders is called to the fact that the work will be subject to compliance with all applicable building and technical codes and, in addition to all other inspections, to inspection by a representative of PARA.

22. Agent's Verification of Insurance. The attached form or an equivalent letter from the Insurance Agent should be submitted with each Contractor's Bid, or, in the alternative, the Contractor may provide a copy of the insurance policy or policies reflecting the coverage required herein.

23. Utilizing Minority Contractors. Contractors are encouraged to utilize the minority contractor database to identify eligible minority contractors and subcontractors. Bidders should document their efforts to utilize minority contractors for the project and identify the minority subcontractors they intend to engage. Bidders may obtain database information by contacting PARA. Bidders' attention is called to the requested information related to the use of disadvantaged businesses. **See the information required in Section Five.**

24. Compliance with Immigration Law. The contractor shall comply with Alabama Act 2011-535 regarding subcontractors, employees, and otherwise. As a condition for contract award, the Contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien, and shall attest to this by an affidavit signed before a notary. The contractor shall use the notary form attached hereto, entitled "Affidavit for Business Entity / Employer / Contractor," and submit the completed form with the sealed bid. The attached notary form is promulgated by the Alabama Secretary of State and is certified as an acceptable form. The contractor shall maintain documentation and cooperate with the PARA in providing the information the PARA needs to verify the status of any person or subcontractor of any tier, as may be required by Alabama Act No. 2011-535.

[END INSTRUCTION TO BIDDERS]

SECTION THREE
PROPOSAL (BID)
(2026)

NOTE TO BIDDER: Use BLACK ink to complete this proposal form.

To: _____

Address: _____

Project Title: _____

Project No.: _____

Trade: The trade portion of the work for which this Proposal is submitted is:
_____(if applicable)

Trade Package No.: _____

BIDDER:

The name of the Bidder submitting this Proposal is _____ doing business
at _____
Address State Zip

which is the address to which all communications concerning this Proposal and the Contract shall be sent.

Licensed, Class, Alabama General Contractor No.: _____ (Attach Copy)

Alabama General Contractor Specialty _____

Alabama General Contractor License Major Categories:

(1) _____ (2) _____

Bidder's contact person for additional information on this Proposal:

Name: _____ **Telephone:** _____

ADDENDA:

The Bidder hereby acknowledges that he has received Addenda numbers _____, _____, _____, _____, _____ (Bidder shall insert the number of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that their Proposal(s) includes all impacts resulting from said addenda.

TOTAL BID \$ _____

AS BUILT DRAWINGS:

The Bidder's Proposal contains \$ 0 for "as-built drawings."

BIDDER'S DECLARATION AND UNDERSTANDING:

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of PARA, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

The Bidder further agrees that they have checked and verified the completeness of the Contract Documents and that they have exercised their judgment in interpreting subsurface information, using all pertinent data to arrive at their conclusions. The Bidder shall be fully responsible for any damage or liability arising from his or his subcontractors' prebid investigations.

The Bidder understands and agrees that, if a Contract is awarded, PARA may elect to award all schedules under one Contract, as a lump sum, separately, or in any combination that best serves PARA's interests.

The Bidder further declares that they have carefully examined the Contract documents for the construction of the Project and have checked and verified the completeness of the Contract Documents, that they have personally inspected the site, that they have satisfied themselves as to the quantities involved, including materials and equipment, and conditions of work involved. Bidder further declares that he is fully aware that the description of the work, quantities of work, and materials included herein is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents. Bidder also declares that this Proposal is made in accordance with the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Proposal.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME:

The Bidder agrees to begin work on the date stated in the Notice to Proceed and to fully complete the work, in all respects, within the time specified in the contract documents for completion.

EXPERIENCE OF BIDDER:

Unless advised by the awarding authority in the Advertisement for Bids that the same is not required, the Bidder submits the following list of at least six clients for whom projects involving the construction of similar projects have been performed within the past five years.

1.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect		Telephone Number
Name of Engineering Firm		

2.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect		Telephone Number
Name of Engineering Firm		

3.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect		Telephone Number

4.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect		Telephone Number
Name of Engineering Firm		

5.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect		Telephone Number
Name of Engineering Firm		

6.

Name of Client		Telephone Number
Street		City
Facility	Size	Date
Name of Engineer/Architect		Telephone Number
Name of Engineering Firm		

PERFORMANCE OF WORK BY CONTRACTOR:

The Bidder shall perform at least 50 percent of the work with his own forces (refer to the INSTRUCTIONS TO BIDDERS).

SUBCONTRACTORS:

Unless the same information has been provided in the prequalification statement, the Bidder further certifies that if his bid is accepted, the following subcontracting firms or businesses will be awarded subcontracts for the following portions of the work:

Description of Work _____

Name

Street City State Zip

Description of Work

Name

Street City State Zip

Description of Work

Name

Street City State Zip

Description of Work

Name

Street City State Zip

SURETY:

If the Bidder is awarded a construction contract on this Proposal, the Surety who provides the Performance Bond and Payment Bond will be:

_____ whose address is

_____, _____, _____
Street City State Zip

Single Job Bond Limit _____ Aggregate Job Bond Limit _____

If Sole Proprietor or Partnership:

IN WITNESS hereto, the undersigned has set its hand this _____ day of _____, 2026.

Signature of Bidder

Title

If Corporation:

IN WITNESS WHEREOF, the undersigned corporation has caused this instrument to be executed, and its seal affixed by its duly authorized officers, this _____ day of _____, 2026.

(SEAL)

Name of Corporation

By _____

Title

Attest _____
Secretary

* * * * *

The Bidder declares that he understands and agrees that the quantities shown in the Advertisement for Bids and in the Proposal are approximate only and are subject to either increase or decrease, and that should quantities be decreased, he also understands and agrees that payment will be made on actual

quantities installed at the unit bid prices and will make no claim for anticipated profits for any decreases in the quantities. Actual quantities will be determined upon completion of the work.

Attached hereto is a (Bid Bond) or (Check) for the sum of _____

according to the conditions under "Instructions to Bidders" and provisions therein.

Dated this day of _____, 2026.

BY: _____

Title

(NOTE) If the Bidder is a corporation, the Proposal shall be signed by an officer of the corporation; if a partnership, by a partner. If signed by others, authority for signature shall be attached.

The full names and residences of people or parties interested in the foregoing bid as principles are as follows:

The name and address of the bidder to whom all notices and other communications may be mailed or delivered as provided herein:

BIDDER

ADDRESS

[END OF BID PROPOSAL]

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

PARA CONTRACT DOCUMENTS

**SECTION FOUR
BID BOND TO PARA
(2026)**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
_____ as Principal; and _____
as Surety (**NOTE:** If cashier's check drawn on an Alabama Bank utilized in lieu of corporate surety, attach
check as required by bid documents) are hereby held and firmly bound unto PARA, a Public Corporation,
as obligee, hereinafter called PARA, in the sum of _____
_____ Dollars (\$ _____) for the payment of
which sum, well and truly to be made, the said Principal and Surety hereby jointly and severally bind
ourselves, our heirs, executors, administrators, successors, and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to PARA a
certain Bid (Proposal), attached hereto and made a part hereof, to enter into a contract in writing with
PARA for the following Project or portion thereof:

Project: _____

Location: _____

Project Manager: _____

Project Number: _____

NOW, THEREFORE,

(a) If said Bid shall be rejected or, in the alternate,

(b) If said Bid shall be awarded and the Principal shall execute and deliver a contract in the
Form of Agreement as included in the Contract Documents for the Project, and shall execute and deliver
Performance Bond and Payment Bond in the Forms as attached to the Contract Documents executed by
a surety company authorized and qualified to make such bonds in the State of Alabama and in the
amounts as required by the Instructions to Bidders and submit the insurance certifications as required by
the bid document and fulfill all other qualifications and requirements of the Contract Documents and bid
specifications (all properly completed in accordance with said Bid), and shall in all other respects perform
the agreement created by the acceptance of said Bid within thirty (30) days after the prescribed forms
have been presented to Bidder for execution; Then, this obligation shall be void, otherwise, the same
shall remain in full force and effect; it being expressly understood and agreed that the liability of the

Surety for any and all default of the Principal hereunder shall be the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by any extension of the time within which PARA may accept such Bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the above-bonded parties have executed this instrument under their several seals, this the _____ day of _____, 20____ the name and the corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

WITNESS:

PRINCIPAL:

_____(SEAL)

By: _____

Title: _____

Address: _____

SURETY:

_____(SEAL)

(Business Address)

ATTEST:

By: _____

Title: _____

Attorney in Fact

NOTE: Surety must be qualified and duly authorized to make bonds in the state. All Bonds and Sureties are subject to review and approval by PARA. The current valid Power of Attorney for Corporate Surety must be attached.

NOTE: Bidder may submit a cashier's check drawn on an Alabama bank, payable to PARA, equal to 5% of the amount bid in lieu of a Corporate Surety under the same terms.

[END DOCUMENT]

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

**SECTION FIVE
MBE/DBE/WBE POLICY FOR PUBLIC WORKS PROJECTS OVER \$100,000
(2026)**

General Mission Statement

THE CITY OF TUSCALOOSA (hereinafter, "City") has voluntarily adopted a Minority/Disadvantaged Business Enterprise (MBE/DBE/WBE") Program designed to encourage the participation and development of minority and disadvantaged business enterprises and to fully promote equal business opportunities in the City allowed by state and federal law.

It is the City's intent to foster competition among contractors, suppliers, and vendors, resulting in higher-quality, more economical services for the City. Under this policy, the City of Tuscaloosa has established a goal of ten to twenty percent (10-20%) inclusion of minority and disadvantaged business enterprises (hereinafter sometimes referred to as "MBE/DBE/WBE") for all services required to deliver City projects. In no case shall the stated percentage be the determining factor in contract awards. Rather, contractors must demonstrate a good-faith effort to attain the desired percentage goal.

Program Goals

It is the goal of this program:

- To ensure non-discrimination in the award and administration of City contracts.
- To help to remove barriers to the participation of DBE/MBE/WBEs in competing for City contracts.
- To ensure a level playing field exists on which DBE/MBE/WBEs can compete fairly for City contracts.

Definition

1. "Minority Business Enterprise" ("MBE") means a business that is an independent and continuing enterprise for profit, performing a commercially useful function, and is at least fifty-one percent (51%) owned and controlled by an African American or Black American.

2. "Women-owned Business Enterprise" ("WBE") means a business that is an independent and continuing enterprise for profit, performing a commercially useful function, and is at least fifty-one percent (51%) owned, operated, and controlled daily by one or more female American citizens.

3. "Disadvantaged Business Enterprise" (DBE") means a business that is an independent and continuing enterprise for profit, performing a commercially useful function and is owned by a majority of persons who are United States citizens or permanent resident

aliens (as defined by the Immigration and Naturalization Service) of the United States, and who are Asian, Black, Hispanic or Native Americans, according to the following definitions:

“Asian” – means persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

“African American” or “Black American” means persons with origins in any African-black racial group.

“Hispanic” means persons of Spanish or Portuguese culture with origins in Mexico, South of Central America, or the Caribbean Islands, regardless of race.

“Native American” means persons having origins in any of the original peoples of North America, including American Indians, Eskimos, and Aleuts.

Equal Business Opportunity

It is the policy of the City to promote full and equal business opportunities for all persons doing business with the City, regardless of race, sex, or national origin. The goal of this policy is to promote an equitable business climate district. The City will seek to increase minority and women participation in contracts that require formal bids. These efforts will be for contracts above \$100,000, as the Alabama Public Works law allows. These efforts are designed to help prevent discrimination against minorities and disadvantaged businesses and promote more competition among the City of Tuscaloosa's vendors, suppliers, and contractors.

The City has established a goal of ten to twenty percent (10-20%) of the total construction-related expenditures to be provided by minority and disadvantaged business enterprises. While the policy permits the City's voluntary participation and relies on race- and gender-neutral considerations, contractors are encouraged to comply with the City's policy. To determine its effectiveness, the City of Tuscaloosa shall periodically review the policy, including race/gender-neutral remedies.

Good Faith Effect

The City requires contractors to demonstrate a good-faith effort to achieve the goal of 10-20% participation by MBE/DBE/WBEs at all levels of the Public Works contracting process. Contractors shall document their efforts to obtain participation from minority and disadvantaged businesses in the bid documents. Contractors should note that failure to document a good-faith effort to the City's satisfaction may result in bid rejection for non-responsiveness.

The following process shall constitute a good-faith effort under the City's policy:

(1) Contractors deciding to bid on a City project shall submit the MBE/DBE/WBE Documentation Statement and Acknowledgment (Form 1). Submission of Form 1 confirms the contractor's commitment to participate in the project's inclusion effort. Form 1 must be submitted to the City of Tuscaloosa Community Development Program Manager with Infrastructure and Public Services/Tuscaloosa Builds no later than seven (7) days before the bid

or at the pre-bid conference, whichever is earlier. The City reserves the right to modify the submittal deadline as needed.

(2) Contractors shall submit MBE/DBE/WBE Bid Solicitation Notice (Form 2). Form 2 must be submitted to the City of Tuscaloosa Community Development Program Manager with Infrastructure and Public Services/Tuscaloosa Builds no later than seven (7) days prior to the bid, or at the pre-bid conference, whichever is earlier. The City reserves the right to modify the submittal deadline as needed.

(3) Contractors shall submit a brief plan for achieving the stated MBE/DBE/WBE Participation Goal for his/her trade (Form 3). Form 3 must be submitted in the contractor's sealed bid.

(4) The contractor shall submit a listing of all MBE/DBE/WBE contractors that submitted bids (Form 4). Form 4 must be submitted in the contractor's sealed bid. (Note: In the event an MBE/DBE/WBE contractor submits a bid after the general contractor has sealed the bid, contractors should write on the envelope the name(s) and scope of work of the MBE/DBE/WBE contractor who submitted the bid.)

(5) The contractor shall submit a list of all MBE/DBE/WBE firms the contractor proposes to utilize during the execution of the contract (Form 5). In addition, the contractor shall include on Form 5 all firms that the major subcontractors propose to utilize. Form 5 must be submitted in the contractor's sealed bid.

(6) Contractors shall be required to work in cooperation with the City's consultant in the implementation of this program. Failure to do so, at the City's discretion, may result in rejection of the bid for non-responsiveness.

Following compliance with item (6) above, submission of Form 1, Form 2, Form 3, Form 4, and Form 5 at the above-prescribed times shall satisfy the good faith effort requirement. Failure to do so may result in rejection of the bid for non-responsiveness.

Additional Administrative Requirements/Procedure

(1) If the successful contractor is subcontracting less than the stated percentage goal, the Contractor must complete an "MBE/DBE/WBE Unavailability Certification" (Form 6). Form 6 is due once a tentative contract award has been made.

(2) Contractors shall obtain the listing of certified MBE/DBE/WBE businesses by contacting the City of Tuscaloosa Community Development Program Manager with Infrastructure and Public Services/Tuscaloosa Builds to assist in soliciting MBE/DBE/WBE participation for the project.

(3) Contractors shall not be required to use an MBE/DBE/WBE subcontractor who cannot display reasonable technical and financial qualifications to perform the work in question.

(4) In addition to the above requirements, contractors should note that the City reserves the right to audit payroll records periodically to ensure compliance with the program. The City employs a Compliance Director.

(5) Upon completion of the project and prior to release of retainage or final payment, the contractor shall submit a Project Closeout Report (Form 7) that includes final accounting of all MBE/DBE/WBE firms utilized on the project.

(6) On a monthly basis, contractors shall submit updated MBE/DBE/WBE reports (Monthly Report Form) to identify any changes in MBE/DBE/WBE firm utilization (Form 8). Contractors shall submit Form 8 directly to the City of Tuscaloosa Community Development Program Manager with Infrastructure and Public Services/Tuscaloosa Builds.

Race/Gender – Neutral Remedies

The City recognizes that race/gender-neutral remedies may effectively increase MBE/DBE/WBE participation. Therefore, the City will continue to explore these remedies. The remedies will include, but will not be limited to the following:

1. Technical assistance techniques to identify and increase the participation of MBE/DBE/WBEs in the City's contracting, subcontracting, and purchasing opportunities.
2. Continuation of the certification process.

The City will periodically review the success of these measures to determine the extent to which the measures provide equitable access to the City's contracting, subcontracting, and purchasing opportunities.

The City has determined that this policy complies with all applicable local, state, and national laws concerning the contracting and purchasing process. The City shall not sacrifice product quality for lower pricing but shall make all awards by applicable law. It shall be the City's primary responsibility to ensure that this policy is followed and that all actions related to the contracting and purchasing process comply with all applicable statutes and the defined goals for MBE/DBE/WBE participation on all construction projects.

Contact Information:

Caramyl Drake
Community Development Program Manager
Infrastructure and Public Services/Tuscaloosa Builds
City of Tuscaloosa
Phone: (205) 248-5725
cdrake@tuscaloosa.com

Form 1 (one page)
Documentation Statement and Acknowledgment

**(Due no later than seven (7) days prior to the bid or at the pre-bid
conference, whichever is earlier)**

PROJECT NAME: _____

FILE NO.: _____ PROJECT NO.: _____

The City of Tuscaloosa has adopted a program to encourage participation by Minority Business Enterprises/Disadvantaged Business Enterprises (MBE/DBE/WBE) in its public works construction projects. The signed statement serves as a commitment by the undersigned company to comply with this program, as outlined by the City, regarding the involvement of an MBE/DBE/WBE firm in accordance with City guidelines.

The undersigned Company will adhere to City program guidelines for utilizing MBE/DBE/WBE businesses in all construction projects, and all program forms (1-8) have been reviewed and understood.

Company Representative (Signature)

Date

Company Representative (Printed)

Title

Company Name

Telephone Number

City, State, Zip

Fax Number

Form 2 (6 pages)

Bid Solicitation Notice

(Due no later than seven (7) days prior to the bid or at the pre-bid Conference, whichever is earlier)

BID DATA

1. GENERAL CONTRACTOR: _____

ADDRESS: _____

CONTACT (S): _____

PHONE: _____

FAX: _____

E-MAIL: _____

2. OWNER: _____

3. NAME OF PROJECT: _____

FILE NO.: _____ ENGINEERING PROJECT NO.: _____

4. SCHEDULE PRE-BID MEETING

DATE/TIME: _____

LOCATION: _____

5. DATE/TIME FOR RECEIPT OF BIDS: _____

6. SCHEDULE FOR BID OPENING

DATE/TIME: _____

LOCATION: _____

7. ESTIMATED JOB START DATE: _____

8. ESTIMATED COMPLETION DATE: _____

PROJECT: _____

LOCATION: _____

BID DATE: _____

GENERAL CONTRACTOR CONTACT:

NAME _____

ADDRESS: _____

TELEPHONE: () _____

FAX: () _____

EMAIL: () _____

DEADLINE FOR PROPOSALS

DATE/TIME

* Estimated Contract Opportunity Value:

{1} 0-25,000 {2} 25,000-50,000 {3} 50,000-100,000 {4} 100,000 - 500,000 {5} over 500,000

DIVISION 02 - EXISTING CONDITIONS

{1} {2} {3} {4} {5} *

- ☐ 02 21 SURVEYS
- ☐ 02 32 GEOTECHNICAL INVESTIGATIONS
- ☐ 02 41 DEMOLITION
- ☐ 02 42 REMOVAL and SALVAGE of CONSTRUCTION MATERIALS
- ☐ 02 43 STRUCTURE MOVING
- ☐ 02 56 SITE CONTAINMENT
- ☐ 02 65 UNDERGROUND STORAGE TANK REMOVAL
- ☐ 02 81 TRANSPORTATION and DISPOSAL of HAZARDOUS MATERIALS
- ☐ 02 82 ASBESTOS REMEDIATION
- ☐ 02 83 LEAD REMEDIATION
- ☐ 02 85 MOLD REMEDIATION
- ☐ 02 91 CHEMICAL SAMPLING, TESTING and ANALYSIS

☐ 02 _____
(Please fill-in other opportunity)

DIVISION 3 - CONCRETE {1} {2} {3} {4} {5}

- ☐ 03 01 MAINTENANCE OF CONCRETE
- ☐ 03 11 CONCRETE FORMING
- ☐ 03 15 CONCRETE ACCESSORIES
- ☐ 03 21 REINFORCING STEEL
- ☐ 03 22 WELDED WIRE FABRIC REINFORCING

- ☐ 03 30 CAST-IN-PLACE CONCRETE
- ☐ 03 31 STRUCTURAL CONCRETE
- ☐ 03 35 CONCRETE FINISHING
- ☐ 03 37 SPECIALTY PLACED CONCRETE
- ☐ 03 38 CONCRETE CURING
- ☐ 03 41 PRECAST STRUCTURAL CONCRETE
- ☐ 03 46 PRECAST ARCHITECTURAL CONCRETE
- ☐ 03 47 SITE-CAST CONCRETE
- ☐ 03 62 NON-SHRINK GROUTING
- ☐ 03 63 EPOXY GROUTING
- ☐ 03 81 CONCRETE CUTTING
- ☐ 03 82 CONCRETE BORING
- ☐ 03 _____

(Please fill-in for other opportunity)

DIVISION 4 - MASONRY {1} {2} {3} {4} {5}

- ☐ 04 21 CLAY UNIT MASONRY
- ☐ 04 22 CONCRETE UNIT MASONRY
- ☐ 04 28 UNIT MASONRY PANELS
- ☐ 04 30 MULTIPLE-WYTHE MASONRY
- ☐ 04 43 STONE MASONRY
- ☐ 04 67 MASONRY FIREPLACES
- ☐ 04 71 MANUFACTURED BRICK MASONRY
- ☐ 04 73 MANUFACTURED STONE MASONRY
- ☐ 04 _____

(Please fill-in for other opportunity)

DIVISION 5 - METALS {1} {2} {3} {4} {5}

- ☐ 05 12 STRUCTURAL STEEL FRAMING
- ☐ 05 14 STRUCTURAL ALUMINUM FRAMING
- ☐ 05 15 WIRE ROPE ASSEMBLIES
- ☐ 05 21 STEEL JOIST FRAMING
- ☐ 05 31 STEEL DECKING
- ☐ 05 35 RACEWAY DECKING ASSEMBLIES
- ☐ 05 41 STRUCTURAL METAL STUD FRAMING
- ☐ 05 42 COLD-FORMED METAL JOIST FRAMING
- ☐ 05 44 COLD-FORMED METAL TRUSSES
- ☐ 05 61 METAL STAIRS
- ☐ 05 62 METAL RAILINGS
- ☐ 05 63 METAL GRATINGS
- ☐ 05 65 METAL STAIR TREADS & NOSING
- ☐ 05 68 METAL CASTINGS
- ☐ 05 68 FORMED METAL FABRICATIONS
- ☐ 05 71 DECORATIVE METAL STAIRS
- ☐ 05 73 DECORATIVE METAL RAILINGS
- ☐ 05 75 DECORATIVE FORMED METAL
- ☐ 05 _____

(Please fill-in for other opportunity)

DIVISION 6 - WOODS, PLASTICS & COMPOSITES {1} {2} {3} {4} {5}

- ☐ 06 11 WOOD FRAMING

- ☐ 06 12 STRUCTURAL PANELS
- ☐ 06 15 WOOD DECKING
- ☐ 06 16 SHEATING
- ☐ 06 17 SHOP FABRICATED STRUCTURAL WOOD
- ☐ 06 22 MILLWORK
- ☐ 06 25 PREFINISHED PANEL
- ☐ 06 26 PANELING
- ☐ 06 43 WOOD STAIRS & RAILINGS
- ☐ 06 44 ORNAMENTAL WOODWORK
- ☐ 06 48 WOOD FRAMES
- ☐ 06 _____

(Please fill-in for other opportunity)

DIVISION 7 – THERMAL & MOISTURE PROTECTION {1} {2} {3} {4} {5}

- ☐ 07 11 DAMPPROOFING
- ☐ 07 12 BUILT-UP BITUMINOUS WATERPROOFING
- ☐ 07 13 SHEET WATERPROOFING
- ☐ 07 16 CEMENTIOUS & REACTIVE WATERPROOFING
- ☐ 07 19 WATER REPELLANTS
- ☐ 07 21 THERMAL INSULATION
- ☐ 07 22 ROOF & DECK INSULATION
- ☐ 07 24 EXTERIOR INSULATION & FINISH SYSTEMS
- ☐ 07 25 WEATHER BARRIERS
- ☐ 07 26 VAPOR RETARDERS
- ☐ 07 31 SHINGLES & SHAKES
- ☐ 07 32 ROOF TILES
- ☐ 07 33 NATURAL ROOF COVERINGS
- ☐ 07 41 ROOF PANELS
- ☐ 07 42 WALL PANELS
- ☐ 07 46 SIDING
- ☐ 07 51 BUILT-UP BITUMINOUS ROOFING
- ☐ 07 52 MODIFIED BITUMINOUS MEMBRANE ROOFING
- ☐ 07 53 ELASTOMETRIC MEMBRANE ROOFING
- ☐ 07 54 THERMOPLASTIC MEMBRANE ROOFING
- ☐ 07 56 FLUID APPLIED ROOFING
- ☐ 07 58 ROLL ROOFING
- ☐ 07 61 SHEET METAL ROOFING
- ☐ 07 65 FLEXIBLE FLASHING
- ☐ 07 71 ROOF SPECIALTIES
- ☐ 07 72 ROOF ACCESSORIES
- ☐ 07 81 APPLIED FIREPROOFING
- ☐ 07 84 FIRESTOPPING
- ☐ 07 91 PREFORMED JOINT SEALS
- ☐ 07 92 JOINT SEALANTS
- ☐ 07 95 EXPANSION CONTROL
- ☐ 07 _____

(Please fill-in for other opportunity)

DIVISION 8 - OPENINGS {1} {2} {3} {4} {5}

- ☐ 08 11 METAL DOORS & FRAMES
- ☐ 08 12 METAL FRAMES
- ☐ 08 13 METAL DOORS
- ☐ 08 14 WOOD DOORS
- ☐ 08 16 COMPOSITE DOORS
- ☐ 08 17 INTEGRATED DOOR OPENING ASSEMBLIES
- ☐ 08 31 ACCESS DOORS & PANELS
- ☐ 08 32 SLIDING GLASS DOORS
- ☐ 08 33 COILING DOORS & GRILLES
- ☐ 08 34 SPECIAL FUNCTION DOORS
- ☐ 08 36 PANEL DOORS
- ☐ 08 38 TRAFFIC DOORS
- ☐ 08 41 ENTRANCES & STOREFRONTS
- ☐ 08 42 ENTRANCES
- ☐ 08 43 STOREFRONTS
- ☐ 08 44 CURTAIN WALL & GLAZED ASSEMBLIES
- ☐ 08 51 METAL WINDOWS
- ☐ 08 52 WOOD WINDOWS
- ☐ 08 53 PLASTIC WINDOWS
- ☐ 08 54 COMPOSITE WINDOWS
- ☐ 08 56 SPECIAL FUNCTION WINDOWS
- ☐ 08 62 UNIT SKYLIGHTS
- ☐ 08 63 METAL-FRAMED SKYLIGHTS
- ☐ 08 71 DOOR HARDWARE
- ☐ 08 74 ACCESS CONTROL HARDWARE
- ☐ 08 75 WINDOW HARDWARE
- ☐ 08 79 HARDWARE ACCESSORIES
- ☐ 08 81 GLASS GLAZING
- ☐ 08 83 MIRRORS
- ☐ 08 84 PLASTIC GLAZING
- ☐ 08 88 SPECIAL FUNCTION GLAZING
- ☐ 08 91 LOUVERS
- ☐ 08 95 VENTS
- ☐ 08 _____

(Please fill-in for other opportunity)

DIVISION 9 - FINISHES {1} {2} {3} {4} {5}

- ☐ 09 21 PLASTER & GYPSUM ASSEMBLIES
- ☐ 09 22 SUPPORTS FOR PLASTER & GYPSUM
- ☐ 09 23 GYPSUM PLASTERING
- ☐ 09 24 CEMENT PLASTERING
- ☐ 09 26 VENEER PLASTERING
- ☐ 09 28 BACKING S & UNDERLAYMENTS
- ☐ 09 29 GYPSUM
- ☐ 09 30 TILING
- ☐ 09 51 ACOUSTICAL CEILINGS
- ☐ 09 54 SPECIALTY CEILINGS
- ☐ 09 62 SPECIALTY FLOORING
- ☐ 09 63 MASONRY FLOORING
- ☐ 09 64 WOOD FLOORING

- ☐ 09 65 RESILIENT FLOORING
 - ☐ 09 66 TERRAZZO FLOORING
 - ☐ 09 68 CARPETING
 - ☐ 09 72 WALL COVERINGS
 - ☐ 09 77 SPECIAL WALL SURFACING
 - ☐ 09 91 PAINTING
 - ☐ 09 93 STAINING & TRANSPARENT FINISHING
 - ☐ 09 96 HIGH PERFORMANCE COATINGS
 - ☐ 09 97 SPECIAL COATINGS
 - ☐ 09 _____
- (Please fill-in for other opportunity)

DIVISION 10 - SPECIALTIES {1} {2} {3} {4} {5}

- ☐ 10 11 VISUAL DISPLAY UNITS
 - ☐ 10 14 SIGNAGE
 - ☐ 10 22 PARTITIONS
 - ☐ 10 26 WALL & DOOR PROTECTION
 - ☐ 10 28 TOILET, BATH & LAUNDRY ACCESSORIES
 - ☐ 10 44 FIRE PROTECTION SPECIALTIES
 - ☐ 10 51 LOCKERS
 - ☐ 10 71 EXTERIOR PROTECTION
 - ☐ 10 74 MANUFACTURED EXTERIOR SPECIALTIES
 - ☐ 10 75 FLAGPOLES
 - ☐ 10 81 PEST CONTROL DEVICES
 - ☐ 10 88 SCALES
 - ☐ 10 _____
- (Please fill-in for other opportunity)

DIVISION 11 - EQUIPMENT {1} {2} {3} {4} {5}

- ☐ 11 11 VEHICLE SERVICE EQUIPMENT
 - ☐ 11 12 PARKING CONTROL EQUIPMENT
 - ☐ 11 13 LOADING DOCK EQUIPMENT
 - ☐ 11 14 PEDESTRIAN CONTROL EQUIPMENT
 - ☐ 11 24 MAINTENANCE EQUIPMENT
 - ☐ 11 31 RESIDENTIAL APPLIANCES
 - ☐ 11 33 RETRACTABLE STAIRS
 - ☐ 11 41 FOODSERVICE STORAGE EQUIPMENT
 - ☐ 11 42 FOOD PREPARATION EQUIPMENT
 - ☐ 11 43 FOOD DELIVERY CARTS AND CONVEYORS
 - ☐ 11 44 FOOD COOKING EQUIPMENT
 - ☐ 11 46 FOOD DISPENSING EQUIPMENT
 - ☐ 11 47 ICE MACHINES
 - ☐ 11 48 CLEANING & DISPOSAL EQUIPMENT
 - ☐ 11 52 AUDIO-VISUAL EQUIPMENT
 - ☐ 11 53 LABORATORY EQUIPMENT
 - ☐ 11 66 ATHLETIC EQUIPMENT
 - ☐ 11 67 RECREATIONAL EQUIPMENT
 - ☐ 11 82 SOLID WASTE HANDLING
 - ☐ 11 _____
- (Please fill-in for other opportunity)

DIVISION 12 - FURNISHINGS {1} {2} {3} {4} {5}

- ☐ 12 21 WINDOW BLINDS
 - ☐ 12 22 CURTAINS & DRAPES
 - ☐ 12 23 INTERIOR SHUTTERS
 - ☐ 12 24 WINDOW SHADES
 - ☐ 12 32 MANUFACTURED CASEWORK
 - ☐ 12 35 SPECIALTY CASEWORK
 - ☐ 12 36 COUNTERTOPS
 - ☐ 12 46 FURNISHING ACCESSORIES
 - ☐ 12 48 RUGS & MATS
 - ☐ 12 51 OFFICE FURNITURE
 - ☐ 12 52 SEATING
 - ☐ 12 54 HOSPITALITY FURNITURE
 - ☐ 12 56 INSTITUTIONAL FURNITURE
 - ☐ 12 61 FIXED AUDIENCE SEATING
 - ☐ 12 63 STADIUM & ARENA SEATING
 - ☐ 12 67 PEWS & BENCHES
 - ☐ 12 92 INTERIOR PLANTERS & ARTIFICIAL PLANTS
 - ☐ 12 93 SITE FURNISHINGS
 - ☐ 12 _____
- (Please fill-in for other opportunity)

DIVISION 13 - SPECIAL CONSTRUCTION

- {1} {2} {3} {4} {5}**
 - ☐ 13 11 SWIMMING POOLS
 - ☐ 13 17 TUBS & POOLS
 - ☐ 13 18 ICE RINKS
 - ☐ 13 21 CONTROLLED ENVIRONMENT ROOMS
 - ☐ 13 24 SPECIAL ACTIVITY ROOMS
 - ☐ 13 28 ATHLETIC & RECREATIONAL SPECIAL CONSTRUCTION
 - ☐ 13 31 FABRIC STRUCTURES
 - ☐ 13 34 FABRICATED ENGINEERED STRUCTURES
 - ☐ 13 36 TOWERS
 - ☐ 13 42 BUILDING MODULES
 - ☐ 13 48 SOUND, VIBRATION, & SEISMIC CONTROL
 - ☐ 13 49 RADIATION PROTECTION
 - ☐ 13 _____
- (Please fill-in for other opportunity)

DIVISION 14 - CONVEYING SYSTEMS {1} {2} {3} {4} {5}

- ☐ 14 11 MANUAL DUMBWAITERS
- ☐ 14 12 ELECTRIC DUMBWAITERS
- ☐ 14 21 ELECTRIC TRACTION ELEVATORS
- ☐ 14 24 HYDRAULIC ELEVATORS
- ☐ 14 27 CUSTOM ELEVATOR CABS & DOORS
- ☐ 14 28 ELEVATOR EQUIPMENT & CONTROLS
- ☐ 14 31 ESCALATORS

- ☐ 14 32 MOVING WALKS
- ☐ 14 42 WHEELCHAIR LIFTS
- ☐ 14 51 CORRESPONDENCE & PARCEL LIFTS
- ☐ 14 91 FACILITY CHUTES
- ☐ 14 92 PNEUMATIC TUBE SYSTEMS
- ☐ 14 _____

(Please fill-in for other opportunity)

DIVISION 21 –FIRE SUPPRESSION {1} {2} {3} {4} {5}

- ☐ 21 11 FIRE-SUPPRESSION WATER SERVICE PIPING & METHODS
- ☐ 21 12 FIRE SUPPRESSION STANDPIPES
- ☐ 21 13 FIRE SUPPRESSION SPRINKLER SYSTEMS
- ☐ 21 21 CARBON-DIOXIDE FIRE EXTINGUISHING SYSTEMS
- ☐ 21 22 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS
- ☐ 21 31 CENTIFUGAL FIRE PUMPS
- ☐ 21 _____

(Please fill-in for other opportunity)

DIVISION 22-PLUMBING {1} {2} {3} {4} {5}

- ☐ 22 07 PLUMBING INSULATION
- ☐ 22 11 FACILITY WATER DISTRIBUTION
- ☐ 22 13 FACILITY SANITARY SEWERAGE
- ☐ 22 14 FACILITY STORM DRAINAGE
- ☐ 22 41 COMMERCIAL PLUMBING FIXTURE
- ☐ 22 42 COMMERCIAL PLUMBING FIXTURES
- ☐ 22 45 EMERGENCY PLUMBING FIXTURES
- ☐ 22 47 DRINKING FOUNTAINS & WATER COOLERS
- ☐ 22 51 SWIMMING POOL PLUMBING SYSTEMS
- ☐ 22 66 CHEMICAL-WASTE SYSTEMS FOR LAB & HEALTHCARE FACILITIES
- ☐ 22 _____

(Please fill-in for other opportunity)

DIVISION 23-HEATING VENTILATION AIR CONDITIONING {1} {2} {3} {4} {5}

- ☐ 23 07 HVAC INSULATION
- ☐ 23 09 INSTRUMENTATION & CONTROL FOR HVAC
- ☐ 23 13 FACILITY FUEL-STORAGE TANKS
- ☐ 23 21 HYDRONIC PIPING & PUMPS
- ☐ 23 22 STEAM & CONDENSATE PIPING & PUMPS
- ☐ 23 31 HVAC DUCTS & CASINGS
- ☐ 23 33 AIR DUCT ACCESSORIES
- ☐ 23 34 HVAC FANS
- ☐ 23 37 AIR OUTLETS & INLETS
- ☐ 23 38 VENTILATION HOODS

- ☐ 23 41 PARTICULATE AIR FILTRATION
- ☐ 23 52 HEATING BOILERS
- ☐ 23 54 FURNACES
- ☐ 23 56 SOLAR ENERGY HEATING EQUIP.
- ☐ 23 57 HEAT EXCHANGES FOR HVAC
- ☐ 23 62 PACKAGED COMPRESSOR & CONDENSOR UNITS
- ☐ 23 63 REFRIGERANT CONDENSORS
- ☐ 23 64 PACKAGED WATER CHILLERS
- ☐ 23 65 COOLING TOWERS
- ☐ 23 73 INDOOR CENTRAL-STATION AIR-HANDLING UNITS
- ☐ 23 74 PACKAGED OUTDOOR HVAC EQUIP

- ☐ 23 82 CONVECTION HEATING & COOLING UNITS
- ☐ 23 84 HUMIDITY CONTROL EQUIPMENT
- ☐ 23 _____

(Please fill-in for other opportunity)

DIVISION 26-ELECTRICAL {1} {2} {3} {4} {5}

- ☐ 26 09 INSTRUMENTATION & CONTROL FOR ELECTRICAL SYSTEMS
- ☐ 26 12 MEDIUM VOLTAGE TRANSFORMERS
- ☐ 26 22 LOW VOLTAGE TRANSFORMERS
- ☐ 26 24 SWITCHES & PANELS
- ☐ 26 25 ENCLOSED BUS ASSEMBLIES
- ☐ 26 27 LOW VOLTAGE DISTRIBUTION EQUIPMENT
- ☐ 26 28 LOW VOLTAGE CIRCUIT PROTECTIVE DEVICES
- ☐ 26 29 LOW VOLTAGE CONTROLLERS
- ☐ 26 32 PACKAGED GENERATOR ASSEMBLIES
- ☐ 26 35 POWER FILTERS & CONDITIONERS
- ☐ 26 42 CATHODIC PROTECTION
- ☐ 26 51 INTERIOR LIGHTING
- ☐ 26 52 EMERGENCY LIGHTING
- ☐ 26 53 EXIT SIGNS
- ☐ 26 54 CLASSIFIED LOCATION LIGHTING
- ☐ 26 55 SPECIAL PURPOSE LIGHTING
- ☐ 26 56 EXTERIOR LIGHTING
- ☐ 26 61 LIGHTING SYSTEMS & ACCESSORIES
- ☐ 26 71 ELECTRICAL MACHINES
- ☐ 26 _____

(Please fill-in for other opportunity)

COMMUNICATIONS- 27 {1} {2} {3} {4} {5}

- ☐ 27 13 COMMUNICATIONS BACKBONE CABLING
- ☐ 27 41 AUDIO-VIDEO SYSTEMS
- ☐ 27 51 DISTRIBUTED AUDIO VIDEO
- ☐ 27 52 HEALTHCARE COMMUNICATIONS & MONITORING SYSTEMS
- ☐ 27 53 DISTRIBUTED SYSTEMS

☐ 27 _____
(Please fill-in for other opportunity)

ELECTRONIC SAFETY & SECURITY- 28 {1} {2} {3} {4} {5}

☐ 28 13 COMMUNICATIONS BACKBONE
CABLING

☐ 28 16 INTRUSION DETECTION

☐ 28 23 VIDEO SURVEILLANCE

☐ 28 31 FIRE DETECTION

☐ 28 33 FUEL-GAS DETECTION

☐ 28 39 MASS NOTIFICATION SYSTEMS

☐ 28 _____
(Please fill-in for other opportunity)

EARTHWORK-31 {1} {2} {3} {4} {5}

☐ 31 06 SCHEDULES FOR EARTHWORK

☐ 31 11 CLEARING & GRUBBING

☐ 31 13 SELECTIVE TREE & SHRUB REMOVAL
& TRIMMING

☐ 31 14 EARTH STRIPPING & STOCKPILING

☐ 31 22 GRADING

☐ 31 23 EXCAVATION & FILL

☐ 31 25 EROSION & SEDIMENTATION

☐ 31 31 SOIL TREATMENT

☐ 31 32 SOIL STABILIZATION

☐ 31 33 ROCK STABILIZATION

☐ 31 36 GABIONS

☐ 31 37 RIPRAP

☐ 31 41 SHORING

☐ 31 43 CONCRETE RAISING

☐ 31 45 VIBROFLORATION & DENSIFICATION

☐ 31 46 NEEDLE BEAMS

☐ 31 48 UNDERPINNING

☐ 31 52 COFFERDAMS

☐ 31 56 SHURRY WALLS

☐ 31 62 DRIVEN PILES

☐ 31 63 BORED PILES

☐ 31 _____
(Please fill-in for other opportunity)

EXTERIOR IMPROVEMENTS- 32 {1} {2} {3} {4} {5}

☐ 32 11 BASE COURSES

☐ 32 12 FLEXIBLE PAVING

☐ 32 13 RIGID PAVING

☐ 32 16 CURBS, GUTTERS SIDEWALKS &
DRIVEWAYS

☐ 32 17 PAVING SPECIALTIES

☐ 32 18 ATHLETIC & RECREATIONAL
SURFACING

☐ 32 31 FENCES & GATES

☐ 32 32 RETAINING WALLS

☐ 32 34 FABRICATED BRIDGES

☐ 32 35 SCREENING DEVICES

☐ 32 84 PLANTING IRRIGATION

☐ 32 91 PLANTING PREPARATION

☐ 32 92 TURF & GRASSES

☐ 32 93 PLANTS

☐ 32 94 PLANTING ACCESSORIES

☐ 32 96 TRANSPLANTING

☐ 32 _____
(Please fill-in for other opportunity)

UTILITIES-33 {1} {2} {3} {4} {5}

☐ 33 11 WATER UTILITY DISTRIBUTION
PIPING

☐ 33 12 WATER UTILITY DISTRIBUTION
EQUIPMENT

☐ 33 16 WATER UTILITY STORAGE TANKS

☐ 33 21 WATER SUPPLY WELLS

☐ 33 31 SANITARY UTILITY SEWERAGE
PIPING

☐ 33 36 UTILITY SEPTIC TANKS

☐ 33 41 STORM UTILITY DRAINAGE PIPING

☐ 33 42 CULVERTS

☐ 33 44 STORM UTILITY WATER DRAINS

☐ 33 46 SUBDRAINAGE

☐ 33 49 STORM DRAINAGE STRUCTURES

☐ 33 51 NATURAL GAS DISTRIBUTION

☐ 33 52 LIQUID FUEL DISTRIBUTION

☐ 33 71 ELECTRICAL UTILITY TRANSMISSION
& DISTRIBUTION

☐ 33 81 COMMUNICATIONS & STRUCTURES

☐ 33 _____
(Please fill-in for other opportunity)

TRANSPORTATION-34 {1} {2} {3} {4} {5}

☐ 34 11 RAIL TRACKS

☐ 34 41 ROADWAY SIGNALING AND CONTROL
EQUIPMENT

☐ 34 71 ROADWAY CONSTRUCTION

☐ 34 72 RAILWAY CONSTRUCTION

☐ 34 _____
(Please fill-in for other opportunity)

MATERIAL PROCESSING & HANDLING

EQUIPMENT-41 {1} {2} {3} {4} {5}

☐ 41 21 CONVEYORS

☐ 41 22 CRANES & HOISTS

☐ 41 _____
(Please fill-in for other opportunity)

POLLUTION CONTROL EQUIP-44 {1} {2} {3} {4} {5}

☐ 44 11 PARTICULATE CONTROL
EQUIPMENT

☐ 44 _____
(Please fill-in for other opportunity)

WATER & WASTEWATER EQUIPMENT-46

{1} {2} {3} {4} {5}

☐ 46 07 PACKAGED WATER & WASTEWATER
TREATMENT EQUIPMENT

☐ 46 _____
(Please fill-in for other opportunity)

Form 4
Contractors Submitting Bids
(Must be submitted in the contractor's sealed bid)

General Contractor: _____
Contact: _____
Name of Project: _____
File No.: _____ Engineering Project No.: _____
Date Submitted: _____

All MBE/DBE/WBE Firms Submitting Bids

Scope of Work

FORM 5
CONTRACTORS SUBMITTING BIDS
(Must be submitted in the contractor's sealed bid)

General Contractor: _____

Contact: _____

Name of Project: _____

File No.: _____ Engineering Project No.: _____

Total Contract Amount: \$ _____

Total Amount of All Subcontractors: \$ _____

Date Submitted: _____

<u>All MBE/DBE/WBE firms to be utilized</u>	<u>Scope of Work</u>	<u>Contract Amount</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Use additional pages if necessary)

Form 6
Unavailability Certification
(Must be submitted following tentative bid award)

I, _____ (Name/Title), of _____ (Company) certify that on _____ (Date), I contacted the following Minority/Disadvantaged Business Enterprise to obtain proposals/bids for the following work items:

<u>MDE/DBE/WBE Firm</u>	<u>Work Items Sought</u>	<u>Form of Proposal Sought</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

To the best of my knowledge and belief, said Minority/Disadvantaged Business Enterprises were unavailable for work on this project or unable to prepare a proposal/bid for the following reason(s): _____

(This form is to be completed by each MBE/DBE/WBE listed, who was contacted but did not submit a bid/proposal)

_____ (Name of MBE/DBE/WBE) was offered an opportunity to submit a proposal on the above-identified work on _____ (Date) by _____ (Company Name).

The above statement is a true and accurate account of why I did not submit a proposal/bid on this project.

_____ (Signature of MBE/DBE/WBE)

_____ (Date)

_____ (Title)

(Use additional pages if necessary)

Form 7
Project Closeout Report
(To be submitted upon completion of the project)

General Contractor: _____
Contact: _____
Name of Project: _____
File No.: _____ Engineering Project No.: _____
Total Contract Amount: \$ _____
Final Contract Amount: \$ _____
Date Submitted: _____

All MBE/DBE/WBE firms verified the Original subcontract amount and Final subcontract amount.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Form 8
Monthly Report Form
(To be submitted monthly directly to the City's consultant)

General Contractor: _____
Contact: _____
Name of Project: _____
File No.: _____ Engineering Project No.: _____
Total Contract Amount: \$ _____
Date Submitted: _____

Billings

Each MBE/DBE/WBE Contractor utilized	Original subcontract amount	Previous amount	This period amount	Total Amount

(Use additional pages if necessary)

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

PARA CONTRACT DOCUMENTS

**SECTION SIX
CONTRACT AGREEMENT
(2026)**

THIS AGREEMENT made and entered into this ____ day of _____, 2026, by and between _____, hereinafter sometimes called the CONTRACTOR, as party of the first part, and PARA, a Public Corporation, hereinafter sometimes called PARA or OWNER, as party of the second part,

W-I-T-N-E-S-S-E-T-H:

In consideration of the amounts herein named and of the mutual agreements and provisions herein contained, the Contractor and PARA agree regarding a public works project (hereinafter either the "work" or the "Project") as described in the Advertisement for Bids.

The Contractor will perform the work and/or construct the Project as well as furnish at his own cost and expense all labor, tools, equipment, and transportation as are herein and in the Contract documents required to be furnished by the Contractor, and shall perform all the work in a manner and form required to construct the Project described in and shown on the contract documents as the same are hereinafter more specifically described and as provided by the plans, specifications, and documents which are attached hereto and made a part hereof as if fully set out herein and addenda together with all plans and drawings on file in the office specified below.

ARTICLE I. GENERALLY

A. Contract Documents: As used throughout the documents constituting the contract, the term "Contract Documents" shall mean and include the following: Advertisement for Bids, Addenda (if issued), the Instructions to Bidders, the Bid Proposal, the General Specifications, the Detail Specifications, Supplemental and Special Conditions (if attached), together with this Contract Agreement and any modifications, including change orders, if made, and the drawings, plans, and profiles that are now on file in the office referred to in the advertisement, the Performance Bond and the Labor and Material Bond, executed by the Contractor in connection with this Contract and insurance requirements and certificates.

All such documents hereinabove enumerated are adopted herein by reference and constitute the Contract between the parties to the same extent as if each were set out in full in this agreement.

B. Independent Contractor: The Contractor enters this Contract with PARA as an independent contractor and, as such, agrees that neither PARA nor its officers, agents, employees, or inspectors shall be

responsible for the acts or omissions of the Contractor or any subcontractor, or any of the Contractor's or subcontractor's agents or employees, or any other persons performing any of the work pursuant to this Contract. The Contractor shall be solely responsible for controlling the manner, means, and techniques of construction consistent with the contract documents, plans, and specifications.

C. Order of Precedence: Should there be a direct conflict between the various elements of the contract documents to the extent that the same cannot be reconciled to be read *in para material*, then precedence shall be given to the same in the following order:

1. Subsequent modifications (change orders or amendments) to the contract agreement after execution
2. Addenda (if issued)
3. Supplemental general conditions and special conditions (if included)
4. The Contract Agreement
5. General and technical specifications
6. Large Scale Drawings (if included)
7. Enlarged Plans (if included)
8. Plans (if included)
9. Instructions to bidders
10. Advertisement for bids
11. Proposal (Bid)

Where more than one document relates to the same matter, both will be retained if both can be given reasonable effect. Written specifications will take precedence over drawings.

D. Integration; Contract Terms and Construction:

1. Integration: This Agreement, together with all documents that constitute the "Contract Documents," constitutes the parties' entire agreement as a complete and final integration thereof with respect to its subject matter. All understandings and agreements between and among the parties are merged into this Agreement, which alone fully and completely expresses their understandings. No representation, warranty, or covenant made by any party which is not contained in this Agreement or expressly referred to herein has been relied on by any party in entering into this Agreement.
2. Amendment in Writing: This Agreement may not be amended, modified, altered, changed, terminated, or waived in any respect whatsoever, except by a further agreement or change order, in writing, properly executed by all the parties.
3. Binding Effect: This Agreement shall bind the parties and their respective personal representatives, heirs, next of kin, legatees, distributees, successors, and assigners.
4. Captions: The captions of this Agreement are for convenience and reference only, are not a part of this Agreement, and in no way define, describe, extend, or limit the scope or intent of this Agreement.
5. Construction: This Agreement shall be construed according to its plain meaning and shall not be construed against the party who provided or drafted it.

6. Mandatory and Permissive: "Shall," "will," and "agrees" are mandatory; "may" is permissive.
7. Governing Laws: The laws of the State of Alabama shall govern the validity of this Agreement, the construction of its terms, the interpretation of the rights, the duties of the parties, the enforcement of its terms, and all other matters relating to this Agreement.
8. Ownership of Contract Documents: The Contract Documents and copies of parts thereof are furnished and owned by PARA or the design professional. All portions of the Contract Documents and copies of parts thereof are the instruments of service for this Project. They are not to be used on other work and are to be returned to PARA on request after the Project. Any reuse of these materials without specific written verification or adaptation by PARA will be at the user's risk and without liability or legal expense to PARA or the Engineer/Architect. Such users shall hold PARA and Engineer/Architect harmless from all damages, including reasonable attorneys' fees, from any claims arising from such reuse. Any such verification and adoption shall entitle PARA to further compensation at rates agreed upon by the user and PARA.

E. Rules of Construction: For this contract, except as otherwise expressly provided or unless the context otherwise requires:

1. Words of masculine, feminine, or neuter gender include the correlative words of other genders. Singular terms include the plural as well as the singular, and vice versa.
2. All references herein to designated "articles," "sections," and other subdivisions or to lettered exhibits are to the designated articles, sections, and subdivisions hereof and the exhibits annexed hereto unless expressly otherwise designated in context. All articles, sections, other subdivisions, and exhibit captions herein are used for reference only and do not limit or describe the scope or intent of, or in any way affect, this agreement.
3. The terms "include," "including," and similar terms shall be construed as if followed by the phrase, "without being limited to".
4. The terms "herein," "hereof," and "hereunder," and other words of similar import refer to this agreement as a whole and not to any article, section, other subdivision, or exhibit.
5. All recitals set forth in, and all exhibits to, this Agreement are hereby incorporated in this Agreement by reference.
6. No inference in favor of or against any party shall be drawn from the fact that such party or such party's counsel has drafted any portion hereof.
7. All references in this agreement to a separate instrument are to such separate instrument as the same may be amended or supplemented from time to time pursuant to the applicable provisions thereof.

F. Coordination of Plans, Specifications, etc.: The specifications, the plans, drawings, and all supplementary documents are essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to be comprehensive, describing and providing complete work. In the event of a discrepancy, the figured dimensions shall govern.

G. Corrections of Plans, etc.: Should any portions of the plans, specifications, or drawings be obscure or in dispute, they shall be referred to the Engineer/Architect, and he shall decide as to the true meaning

and intent. The Engineer/Architect shall also have the right to correct any errors or omissions at any time when such corrections are necessary for the proper fulfillment of said plans and specifications.

H. Taxes and Charges: Contractor shall withhold and pay all sales and use taxes and all withholding taxes, whether local, state, or federal, and pay all Social Security taxes and also all State Unemployment Compensation taxes, and pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws. Pursuant to Ala. Code §39-1-3 (1975), the Contractor shall be reimbursed for any additional severance, sales, or use taxes incurred due to an increase in such taxes during the performance of the contract.

I. Shop Drawings and Submittals. The Contractor shall submit shop drawings, samples, and submittals depicting or representing the construction of portions of the Project in accordance with the plans and specifications to the Engineer/Architect and, if there is no Engineer or Architect on the Project, to PARA's representative. The Contractor shall pay for, or the cost may be withheld from payments to the Contractor for more than two (2) reviews of the shop drawings, samples, or submittals, or similar elements of work by the Engineer, Architect, or PARA representative.

J. Alabama Immigration Law. (See pages 87 & 88) The contractor shall comply with Alabama Act 2011-535 regarding subcontractors, employees, and otherwise. The Contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien and shall attest to such by sworn affidavit signed before a notary. The contractor shall cooperate with PARA in providing the information needed by PARA to verify the status of any person as may be required by Alabama Act No. 2011-535. The requirements of this section are mandated by Alabama state law and should not be interpreted as a PARA initiative. In the event the state law requirement is repealed, then the Contractor will not be held to the requirements of this section.

ARTICLE II. PAYMENTS, CLAIMS, AND CHARGES, ETC.

A. Contract Price: PARA will pay and the Contractor will accept in full consideration for the performance of the work/Project, subject to additions and deductions (including but not limited to liquidated damages) as provided in the contract documents and herein, the sum of _____ (\$ _____) and/or in unit prices as shown in Bidder's schedule for the base bid amount of \$ _____, being the amount of the Contractor's bid as awarded by PARA.

B. Estimated Quantities and Unit Prices: If the award was made as a whole or in part based upon unit prices, the Contractor agrees that the prices given in the Proposal are unit prices. The estimated quantities as stated in the Advertisement for Bids and in the Proposal, and as indicated on the plans or in other places, are approximate only, subject to increase or decrease, and are for the purpose of comparing, on a uniform basis, the bids offered for the Project under this contract. The Contractor further agrees that should the quantities of any of the items of the work be increased, he will do the additional work at the unit prices set out in the Proposal, and should the quantities be decreased, payment will be made on actual quantities at the unit prices, and he will make no claim for anticipated profits for any decrease in the quantities. Actual quantities will be determined upon completion of the Project.

C. Overtime Work by Contractor: If the Contractor, for his convenience and at his own expense, should desire to carry on his work at night or outside regular hours, he shall submit written notice to the Engineer/Architect, and he shall allow ample time for satisfactory arrangements to be made for inspecting the work in progress. The notice shall be given at least 24 hours before overtime work begins. Through the Engineer/Architect, the Contractor must obtain PARA's approval for work at night, on Saturdays, Sundays, or legal holidays. The Contractor shall light the different parts of the Project as required to comply with all applicable federal and state regulations and all applicable PARA requirements.

Overtime hours shall be considered any hours worked by the Contractor on Saturday, Sunday, and legal holidays that, in the Engineer/Architect's opinion, require the Engineer/Architect's resident observers' presence to monitor such overtime work. Overtime hours requiring the presence of PARA inspectors shall be considered any hours worked by the Contractor more than eight (8) hours during any working day and/or more than forty (40) hours from Monday through Friday and/or any time on Saturday, Sunday, or a legal holiday. In general, the Engineer/Architect's resident observer(s) or PARA's inspectors will always be present when the Contractor is working.

If the Contractor elects to schedule and perform overtime work, the Contractor shall pay PARA's resident inspector's salary and the costs for each hour of overtime. Overtime shall be rounded up to the nearest whole hour. This amount shall include the inspector's salary at the overtime rate and labor additive, which includes insurance, social security, workmen's compensation, sick pay, paid holidays, vacation pay, and his vehicle and equipment. Payment to PARA shall be made by a deduction from the Contractor's monthly payment invoice for any overtime worked.

D. Payment: Payment shall be made within 30 days of project completion.

E. Claims for Extra Cost: If the Contractor claims that any instructions by drawings or otherwise involve extra cost or any extension of time, he shall notify PARA in writing within ten (10) days after the receipt of such instructions and in any event before proceeding to execute the Project. Thereafter, the procedure shall be the same as that for change orders. No such claim shall be valid unless made in accordance with the terms of this section. There shall be no damages for delay.

Except as otherwise herein provided, no charge for any extra work will be allowed unless the same has been duly authorized in writing by PARA and the price stated in such order.

F. Differing Site Conditions: If, in the performance of the Contract, subsurface or latent conditions are found to be materially different from those indicated by the plans and specifications, or unknown conditions of an unusual nature are disclosed differing materially from conditions usually inherent in work of the character shown and specified, the Contractor shall immediately notify the Engineer/Architect in writing regarding such conditions but in no event later than forty-eight (48) hours after discovery of such conditions by the Contractor.

The written notice shall describe the conditions and other pertinent information; in no event shall such notice be later than forty-eight (48) hours before such conditions are disturbed. Upon such notice, or upon such observation of conditions, the Engineer/Architect will promptly make such changes in the plans and/or Specifications as he finds necessary (if any are necessary) to conform to the different conditions, and any increase or decrease in the cost of the Project resulting from such changes may be adjusted as provided under Change Orders or Claims for Extra Cost as set forth in the Contract documents.

G. Change Orders: Change orders shall be allowed only under the following conditions: 1) Minor changes for a total monetary amount less than that required for competitive bidding; or 2) Changes for matters incidental to the original contract necessitated by unforeseeable circumstances arising in the course of work under the contract; or 3) Changes due to emergencies; or, 4) Changes provided for in the original bidding and original Contract Documents as alternates; 5) Changes of relatively minor items not contemplated when the plans and specifications were prepared and the Project was bid and which are in the public interest and generally do not exceed 10 percent of the Contract Price, subject to Alabama Bid Law exceptions.

The Contractor or successful bidder is expected to complete the Project as bid and specified within the financial parameters. However, if it is determined that a change order condition may exist in any given case during the performance of the contract, the Contractor shall promptly notify the representative of PARA in writing and shall not implement such a change until notified. If the change is minor in the opinion of the representative of PARA and does not involve 1) an adjustment in the contract sum or construction bid price, or 2) result in an extension of the contract time, or 3) a material change in the contract scope of services, the then PARA representative may authorize the change in writing to the Contractor. The Contractor shall not perform such a change until receipt of such a written change order.

In the event the change order requested by the Contractor involves 1) an increase in the contract sum or construction bid price, 2) extending the contract time, or 3) a material change in the Contractor's scope of work or services, then the Contractor shall request a change order in writing and present the same to the PARA representative. The representative of PARA shall determine whether this change order may be approved and, if so, which exception it falls under. The representative of PARA shall then document the same, attach it to the Contractor's request for a change order, and submit it, along with his recommendation, to the PARA Board at its next or any subsequent regularly scheduled Board meeting for approval.

PARA reserves the right to institute change orders as the Owner pursuant to the aforesaid terms and conditions.

In no event shall a change order be executed by the Contractor prior to approval thereof by PARA, except in emergencies.

H. Determination of Adjustment of the Contract Sum: The adjustment of the Contract Sum resulting from a change in the Work shall be determined by one of the following methods as determined by the Owner:

1. By mutual agreement to a lump sum based on or negotiated from an itemized cost proposal from the Contractor.
2. Additions to the Contract Sum shall include the Contractor's direct costs plus a maximum 15% markup for overhead and profit. Where subcontract work is involved, the total markup for the Contractor and a subcontractor shall not exceed 25%. No allowance for overhead and profit shall be figured on a change that results in a net credit to the Owner. For the purposes of this method of determining an adjustment of the Contract Sum, "overhead" shall cover the Contractor's indirect costs of the change, such as the cost of bonds, superintendent and other job office personnel, watchman, job office, job office supplies and expenses, temporary facilities and utilities, and home office expenses.

I. Sales and Use Tax Savings: PARA will not be held responsible for paying any sales or use taxes. The awarded contractor will be presented with a letter and certificate of tax exemption.

ARTICLE III. TIME

A. Time for Completion/Delays: The Contractor hereby agrees to commence work under this contract on the date to be specified in a written "Notice to Proceed" and to fully complete the Project within 30 consecutive calendar days thereafter. If this is a trade contract, then the Contractor shall perform within the time periods and at the times established by the Program Manager's approved construction schedule for the project. The Contractor further agrees to pay liquidated damages to PARA for each consecutive calendar day thereafter as hereinafter provided. Time is of the essence and a material element of this agreement.

Delay: If the Contractor is delayed at any time in the progress of work by any of the following causes, the Contractor may be entitled to a reasonable extension of time as determined by PARA in which to complete the Project. Provided, however, no such delay nor the extension of time, if granted, shall be grounds for a claim by the Contractor for damages or for additional cost, expenses, overhead profit, or other compensation:

1. Fires, abnormal floods, tornadoes, or other cataclysmic phenomena of nature.
2. Strikes, embargoes, lockouts, war, acts of public enemy.
3. Change orders.
4. Acts of performance or delays in performance by other contractors employed by PARA or their subcontractors.
5. Causes beyond the control of the Contractor.

Provided further, that the Contractor shall immediately give written notice to PARA and follow the extension-of-time procedures as provided herein. PARA expressly disclaims any liability to the Contractor for any costs, expenses, or damage caused by other contractors, subcontractors, or suppliers, including those engaged by PARA. PARA shall not be liable for damages or costs to the Contractor sustained due to any interference from utilities or appurtenances or from the operations of relocating the same.

B. Extensions of Time: All written requests for extensions of time must be submitted to the Engineer/Architect within ten (10) days after the occurrence of the cause for delay. The Engineer/Architect shall ascertain the facts and the extent of the delay and shall recommend to the PARA Board whether it should extend the time for completing the Project. Any extension of time shall be in writing and processed as a change order.

For change orders requesting extensions of time due to rain, wind, flood, or other natural phenomenon, the Contractor's written request must be accompanied, at PARA's request, by a detailed report of weather at this site for the last ten (10) years with averages showing means and statistical deviations from the mean averages to support the request for extension.

No extension shall be granted for delays due to rain, wind, flood, or other natural phenomena of normal intensity in the locality.

In the event any material changes, alterations, or additions are made as herein specified, which, in the opinion of the Engineer/Architect, will require additional time for execution of any work under the contract, then in that case, the time of the completion of the Project may be extended through a change order. No extensions of time shall be given for any minor changes, alterations, or additions. The Contractor shall not be entitled to any reparation or compensation on account of such additional time or extensions of time. To the extent that the construction schedule contains "float," the parties agree that the same belongs to the Project and may be utilized by either party.

C. Right of PARA to Terminate Contract: If the Contractor should be adjudged as bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed for the Contractor or any of its property, or if it should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or if it should refuse or fail to make prompt payment to persons supplying labor for the Project under the Contract, or persistently disregard instructions of the Engineer/Architect or fail to observe or perform any provisions of the Contract documents, or fail or neglect to promptly prosecute or perform the Project in accordance with the contract documents or otherwise be guilty of a substantial violation of any provision of the Contract documents, then PARA may, on giving at least thirty (30) days' written notice to the Contractor, without prejudice to any other rights or remedies of PARA in the premises, terminate the Contractor's right to proceed with the Project. In such event, PARA may take over the Project and prosecute the same to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to PARA for any and all excess cost occasioned to PARA thereby, including attorney's fees; and in any such case, PARA may take possession of and utilize in completing the Project such appliances and plant of the Contractor or its subcontractors as may be on the site work and necessary or useful thereof. In the event of termination, such termination shall not relieve the Contractor or any of its sureties of their obligations pursuant to this agreement. In the event it becomes necessary for PARA to maintain any legal action against the contractor to enforce its rights herein, the Contractor shall pay PARA all expenses associated therewith, including a reasonable attorney's fee.

The Owner may, at any time and for any reason, terminate the Contractor's services and work at the Owner's convenience. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and the placing of orders for materials, facilities, and supplies in connection with the performance of this Agreement. Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus (2) such other costs actually incurred by Contractor as are permitted by the prime contract and approved by Owner; (3) plus ten percent (10%) of the cost of the work referred to in subparagraph (1) above for overhead and profit.

D. Liquidated Damages: Should the work under this contract not be completed within the time specified, scheduled, or as extended, it is understood and agreed that there might be deducted by PARA or Engineer/Architect from the partial and/or final payments to the Contractor or otherwise charged to the Contractor, a sum computed at the rate listed below per day beginning from the stated or extended date of completion and continuing for so long as the Project remains incomplete. It is understood and agreed that the above deduction is not a penalty but rather money due to reimburse PARA/Owner for the inconvenience and damage to the public caused by the delay in the completion of the Project and is reasonable. The collection of liquidated damages by PARA shall not constitute an election or waiver by

PARA of recovery of additional delay- or non-delay-related damages from the Contractor. PARA expressly reserves the right to recover actual damages for other harm resulting from the delay. The provisions of the liquidated damage clause shall apply and continue to apply even if the Contractor terminates or abandons the Project prior to the scheduled completion dates.

SCHEDULE OF LIQUIDATED DAMAGES

Contract Bid Price	Amount of Liquidated Damages per day
Less than \$250,000	\$200.00
\$250,000 and less than \$600,000	\$500.00
\$600,000 or more	\$1,200.00

The amounts of such liquidated damages and actual damages incurred due to failure to complete the work stipulated in the Contract are hereby agreed upon as reasonable estimates of the costs PARA may incur. It is expressly understood and agreed that these amounts are not to be considered penalties but damages that have accrued against the Contractor. PARA shall have the right to deduct such damages from any amount due, or that may become due, to the Contractor, or the amount of such damages shall be due and collectible from the Contractor or Surety.

ARTICLE IV. WORK AND MATERIALS

A. Cooperation of Contractor: The Contractor shall have available on the job site, always, at least one (1) copy of the plans and specifications if prepared for the Project.

He shall give the Project the constant attention necessary to facilitate its progress and shall cooperate with PARA, the engineer/architect, and other contractors in every way possible. The Contractor shall always have a superintendent capable of acting as his agent on the Project, who shall receive communications from the Engineer/Architect, his authorized representatives, or PARA's authorized representative. The superintendent shall have full authority to give and execute orders relating to the Project without delay and to promptly supply such tools, plant equipment, materials, and labor as may be required.

PARA reserves the right to use its own forces on the site or those of another contractor, and to communicate directly with the Contractor through its representative.

B. Coordination - Trade Contractors: If the supplemental conditions are attached to these general conditions indicating that this Project involves the use of multiple trades or multiple prime contractors under the supervision and direction of a Program Manager employed by PARA, then each such trade contractor shall cooperate and coordinate its construction activities and operations with those of other trade contractors and other entities involved in the Project and included under different sections of the specifications that are dependent upon each other in any manner for proper and correct installation,

connection and operation, to assure efficient, prompt, orderly and proper installation of each part of the Project.

When utilizing trade contractors and/or multiple prime contractors under the supervision of the Program Manager, cooperation and coordination of activities are extremely important. Refer to the provisions of the supplemental conditions for detailed requirements.

C. Superintendence: The Contractor shall assign to and keep competent supervisory personnel at the Project site. The Contractor shall designate, in writing, before starting work, an authorized representative who shall be an employee of the Contractor and shall have complete authority to represent, receive notice for, and act for the Contractor. The Contractor shall not permit any work to be conducted on the Project site without the presence of supervisory personnel. The Engineer/Architect shall be notified in writing prior to any change in superintendent assignment. Using his best skill and attention, the Contractor shall efficiently supervise the Project. The Contractor shall be solely responsible for all construction means, methods, techniques, and procedures, for providing adequate safety precautions, and for coordinating all portions of the Project under the Contract. It is specifically understood and agreed that neither the Engineer/Architect nor PARA shall have control or charge of and shall not be responsible for the construction means, methods, techniques, or procedures, or for providing adequate safety precautions in connection with the Project under the Contract.

D. Contractor's Tools and Equipment: The Contractor's tools and equipment used on the Project shall be furnished in sufficient quantity and of a capacity and type that will adequately and safely perform the work specified and shall be maintained and used in a manner that will not create a hazard to persons or property or cause a delay in the progress of the Project.

E. Furnishing Labor and Equipment: The Contractor shall furnish and pay for all equipment, labor, and supervision, and all such materials as required to be furnished in the Notice to Bidders and as may otherwise be necessary for the completion of the Project and the operation of each construction crew required.

F. Employees: The Contractor shall employ only competent, skillful workers on the Project, and whenever any person appears to be incompetent or acts in a disorderly, unsafe, or improper manner, such person shall promptly be removed from the Project by the Contractor.

G. Materials and Appliances: Unless otherwise stipulated, the Contractor shall provide and pay for all other materials, water, heating, lighting, fuel, power, transportation, machinery, appliances, telephone, sanitary facilities, temporary facilities, and other facilities and incidentals necessary for the execution and completion of the Project. The Contractor warrants to PARA and the Engineer/Architect that, unless otherwise specified, all materials and equipment furnished under this contract shall be new, and both workmanship and materials shall be of good quality, free of faults and defects, and in conformance with the Contract Documents. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials. In selecting and/or approving equipment for installation in the Project, neither PARA nor Engineer/Architect assumes responsibility for injury or claims resulting from failure of the equipment to comply with applicable federal, state, and local safety codes or requirements or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials. Material and/or equipment damaged by flooding or other causes during the construction period shall be subject to rejection by the Engineer/Architect; reconditioning and/or repair of such material and/or equipment is not acceptable.

H. Protection of Work and Property: The Contractor shall furnish and install all necessary temporary work for the protection of the Project. The Contractor shall always adequately maintain, guard, and protect his own work from damage and safely guard and protect private, commercial, industrial, PARA's, and others' property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury, or loss, except such may be directly due to errors in the plans or specifications or caused by agents or employees of PARA.

The Contractor shall protect all existing vegetation, such as trees, shrubs, and grass on or adjacent to the site, which are not required to be removed or do not unreasonably interfere with construction, as may be determined by the Engineer/Architect and be responsible for all cutting or damaging of trees and shrubs or grassed areas, including damage due to careless operation of equipment, stockpiling of materials or equipment.

Care shall be taken by the Contractor in felling trees that are to be removed to avoid any unnecessary damage to vegetation or other trees that are to remain in place. Any limbs or branches unavoidably broken during such operations shall be trimmed with a clean cut and painted with an approved tree priming compound. The Contractor may be required to replace or restore at his own expense all vegetation not protected and preserved, as above required, that may be destroyed or damaged.

The Contractor shall provide and maintain all passageways, guard fences, lights, and other facilities required for protection by federal, state, or municipal laws and regulations or local conditions.

The Contractor shall comply with local and state regulations governing the operation of occupied premises and shall perform the contract in a manner that does not interrupt or interfere with the operation of other facilities.

The Contractor shall store his apparatus, materials, supplies, and equipment in such an orderly fashion at the site of the Project as will not unduly interfere with the progress of his work or the work of any other contractor.

Necessary crossings of curbing, sidewalks, roadways, or parkways shall be protected against damage, and any damage shall be repaired by or at the expense of the Contractor.

The Contractor shall not place upon the Project, or any part thereof, loads inconsistent with the design or safety of that portion of the Project.

The Contractor shall always provide and maintain access to all public and private properties and be responsible for any damage caused by his operation to existing driveways, yards, streets, parking lots, utilities, railroads, etc., and such damage shall be corrected at the Contractor's expense. Roadways authorized to be closed by state or local authorities shall be maintained to provide access to all fire, police, and other emergency vehicles, and to all individuals with private property in the closed area. The Contractor shall notify at least 24 hours in advance the Fire, Police, and Transportation Departments having local jurisdiction, the Owner, and any other individuals, businesses, or agencies that may be affected.

I. Protection of Existing Utilities. The contractor shall be responsible for any damage to existing structures or the interruption of any utility services, which shall be repaired or restored promptly by and at the expense of the Contractor.

To that end, the Contractor shall provide all necessary measures to properly protect and maintain all existing utilities encountered in the course of the work. The Contractor shall be exclusively responsible to the utility owner for all damages to the various utilities caused by the Contractor's actions or failure to adequately protect them.

The Contractor shall determine the exact location of all existing utilities before commencing work and hereby agrees to be fully responsible and liable for all damages that may result from his failure to accurately locate and/or preserve the location of all underground or overhead utilities. The Contractor shall be solely and directly responsible to the utility owner for all damages to the various utilities caused by the Contractor's actions or failure to adequately protect such utilities. If any utilities are to be affected during construction, the Contractor shall notify the owners thereof at least seventy-two (72) hours prior to any such construction activity. The Contractor shall fully cooperate and coordinate with all utility owners in the event of an interruption to any utility service. The cost for locating, uncovering, and protecting underground and/or overhead utilities is included within the Contractor's bid price for various other items of work.

The Contractor shall maintain all storm sewers, drains, and/or ditches so that flow is not disturbed or impeded. The Contractor shall protect storm drains, inlets and/or ditches, lawns, landscaping, and other facilities from damage during the testing and flushing.

J. Limiting Exposures: The Contractor shall prosecute the work on the Project to ensure that no part of the construction, complete or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

Excessive static or dynamic loading	Chemicals, Improper lubrication	
Excessive internal or external pressures	Light	Unusual wear or other misuse
Excessively high or low temperatures	Puncture	Contact between incompatible materials
Thermal shock	Abrasions	Destructive testing
Excessively high or low humidity	Heavy traffic	misalignment
Air contamination or pollution	Soiling, staining & corrosion	Excessive weathering
Water or ice	Bacteria	Unprotected storage
Solvents	Rodent and insect infestation, Combustion	Improper shipping or handling
	Electrical current	Theft
	High-speed operation	Vandalism

The Contractor shall minimize dust and air pollution with water or other devices, require the use of properly operating combustion emission control devices, and encourage the shutdown of construction vehicles when not in use.

K. Safety: The completed Project shall include all necessary permanent safety devices, such as machine guards and similar ordinary safety items as may be appropriate or required by law. Further, any feature of the Project (including PARA-furnished or PARA-selected equipment) subject to such safety regulations should be fabricated, furnished, and installed in compliance with these requirements. Contractors and

equipment manufacturers shall be held responsible for compliance with the requirements. Contractors shall notify all equipment suppliers and subcontractors of the provisions of this Article.

In selecting and/or accepting equipment for installation in the Project, neither PARA nor Engineer/Architect assume responsibility for any personal injury, property damage, or any other damages or claims resulting from the failure of the equipment to comply with applicable safety codes or requirements, or the safety requirements of a recognized agency, or failure due to manufacturer's faulty design concepts, or defective workmanship and materials. The Contractor shall indemnify and hold PARA, the Program Coordinator, and the Engineer/Architect harmless from and against all liability, claims, suits, damages, costs, or expenses, without limitation, arising out of the installation or use of such equipment.

The Contractor shall take all necessary precautions for the safety of employees on the Project and shall comply with all applicable provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injuries to persons on, about, or adjacent to the premises where the Project is being performed. He shall erect and properly maintain, as required by the conditions and progress of the Project, all necessary safeguards to protect workmen and the public. They shall post danger signs warning against the hazards created by construction features and the site. Machinery, equipment, and all hazards shall be guarded or eliminated in accordance with the State Accident Prevention in Construction provisions to the extent that such provisions are not in contravention of applicable laws.

The Contractor shall perform all necessary work for safety and be solely and completely responsible for the conditions of the job site, including the safety of all persons (including, but not limited to, the public, site personnel, visitors, or employees) and property during the Contract period. The contract period shall include any subsequent warranty or other period associated with Project deficiency or repair, and all hours, including and in addition to normal working hours.

Safety provisions shall conform to the Federal and State Departments of Labor and the Occupational Safety and Health Act (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, the requirements set forth herein, and any regulations that may be specified in other parts of these Contract Documents. Where there is any conflict, the more stringent requirement shall be followed. The Contractor's failure to thoroughly familiarize himself with the safety provisions shall not relieve him of the obligations and penalties set forth therein.

The Contractor shall always provide proper facilities for safe access to the work by authorized government officials (federal, state, county, and local) and the Owner's representatives.

L. Traffic Control: The Contractor shall be responsible for traffic control, including plans and devices, to the extent required due to work in, upon, or in proximity to the public right-of-way, streets, roads, or vehicular traffic. The traffic control plan and all traffic control devices shall, at a minimum, to the Manual on Uniform Traffic Control Devices for Streets and Highways, Latest Edition, published by the Federal Highway Administration. A copy of which is on file in PARA's offices for examination. Copies may be obtained from the Alabama Department of Transportation. Should the appropriate public authority determine a greater degree of traffic control is required, the Contractor shall promptly provide it. The Contractor shall submit a plan to PARA for approval before commencing construction.

Reasonable means of ingress and egress by vehicle and/or pedestrian traffic to property adjacent to the Project shall always be maintained. The Contractor shall indemnify and hold PARA harmless from and against any claims or causes of action, including, but not limited to, inverse condemnation and/or lost

profits, arising out of or in any manner associated with access to, or the restriction or prevention thereof, to adjoining property. Traffic and erosion control are of paramount importance during the construction of this Project, and the contract documents' terms and conditions regarding these matters must be strictly adhered to.

M. Responsibility to Act in Emergency: In case of an emergency that threatens loss or damage to property and/or safety, the Contractor shall act, without previous instructions from PARA or Engineer/Architect, as the situation may warrant. The Contractor shall notify the Engineer/Architect thereof immediately thereafter. Any claim for compensation by the Contractor, together with substantiating documents regarding expense, shall be submitted to PARA through the Engineer/Architect. The claim will be handled in accordance with the provisions for extra work. However, if the emergency is created or aggravated by the Contractor, he shall be liable for the resulting damages. If the Contractor fails to take necessary action as required by such an emergency, PARA may assign another Contractor or use its own forces to perform the emergency work. Costs or damages arising from the Contractor's failure to act in an emergency may be deducted from the Contractor's payment request.

N. Sanitary Regulations: The Contractor shall provide and maintain such sanitary accommodations for the use of his employees and those of his subcontractors as may be necessary to comply with the requirements and regulations of the local and State Department of Health. At a minimum, necessary sanitary conveniences for the use of the laborers on the work shall be erected and maintained by the Contractor in such a manner and at such points as shall be approved by the Engineer/Architect. Their use shall be strictly enforced. In the Program Manager format, PARA may provide sanitary accommodation through the Program Manager.

O. Cutting, Patching, etc.: Unless otherwise stated in the contract documents, the Contractor shall do all necessary cutting, fitting, and patching of the Project that may be required to properly receive the work, to make its several parts join together properly, receive and provide for the work of various trades, and be received by the work of other contractors, or as required by drawings and specifications to complete the Project. After such cutting, he shall replace, restore, or repair and make good all defective or patched work as required by the Engineer/Architect. He shall not cut, excavate, or otherwise alter any work in any manner or by a method or methods that will endanger the Project, adjacent property, workmen, the public, or the work of any other contractor. The Contractor shall check the locations of all sleeves, openings, slots, piping, ducts, breeching, conduits, louvers, grills, and fans as they are laid out on the job.

P. Trailers: With the approval of PARA or Engineer/Architect, the Contractor may park trailers or other structures for housing men, tools, machinery, and supplies, but they will be permitted only at approved places, and their surroundings shall always be maintained in a sanitary and satisfactory manner by the Contractor. On or before the completion of the Project, all such trailers or structures shall be removed unless the PARA authorizes their abandonment without removal, together with all rubbish and trash, at the Contractor's expense.

Q. Construction Staking: If necessary, the Engineer/Architect or PARA will furnish initial lines and grades to establish the initial horizontal and vertical control points and define the beginning and ending points of the Project. The Contractor is responsible for engaging the services of a qualified Engineer or land surveyor to replace and/or re-establish, in accordance with the construction plans and/or specs, all construction stakes that are disturbed, displaced, or destroyed during construction.

If the Contractor finds any errors or discrepancies with the construction staking or the criteria upon which it is based, he/she shall promptly notify the Owner's representative.

R. Periodic Cleanup: The Contractor shall periodically, at least weekly, or as requested during the progress of the Project, clean up and remove from the premises all refuse, rubbish, scrap materials, and debris caused by its employees or its subcontractors resulting from its work to the end that all times the premises are sanitary, safe, reasonably clean, orderly, and workmanlike. Trash and combustible materials shall not be allowed to accumulate inside buildings or elsewhere on the premises. No rubbish shall be thrown from window openings, except during renovations with adequate precautions and into proper receptacles. The Contractor shall comply with all municipal litter and construction site ordinances.

Before the Project is complete, the Contractor must remove all rubbish created by or in connection with the construction, and the premises must be left in a condition by the Contractor satisfactory to PARA. Street, curbs, crosswalks, pavements, sidewalks, fences, and other public and private property disturbed shall be restored to their former condition or better, and final payment will be withheld until the Contractor finishes such work.

The contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws. No burning or burying of rubbish or waste materials is permitted on the Project site. The Contractor shall safely dispose of any hazardous material off-site in accordance with applicable laws and regulations and shall not dispose of volatile or hazardous waste in storms or sanitary sewer drainage ditches, streams, or waterways.

The contractor shall periodically wet down dry materials and rubbish to lay the dust and prevent blowing dust and shall provide adequate and approved containers for collection and disposal of waste material, debris, and rubbish, removing grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from exposed and semi-exposed surfaces.

S. Wastewater Containment and Management Plan. To the extent that construction activity by the Contractor involves any wastewater infrastructure of any governmental or other wastewater entity within Tuscaloosa County, the Contractor shall submit to PARA, before commencing construction, a wastewater containment and management plan (the "Plan"). The Plan shall adequately address the means, methods, and techniques to be employed by the Contractor for containing and transporting wastewater in a sanitary manner without, at any time, permitting the discharge of wastewater into the environment or creating the necessity of a State-required sanitary sewer overflow report. The Contractor shall submit the Plan to PARA for review and approval before commencing any construction activity. PARA may waive the requirement of submitting a Plan if it determines that the construction activity to which the Plan would relate does not involve any potential for the discharge of wastewater into the environment or creating the potential for the necessity of a State-required sanitary sewer overflow report.

T. Environmental Clause/Covenant. Contractor shall not allow any toxic, hazardous or contaminated substances or gases (including, but not limited to, asbestos and raw materials which include hazardous constituents or any other similar substances or materials which are included under or regulated by any local, state, or federal law, rule or regulation pertaining to environmental regulations, contamination, clean-up or disclosure such as, without limitation, the Comprehensive Environmental Response Compensation and Liability Act of 1980 ("CERCLA"); the Clean Air Act (42 U.S.C. Sec. 7401 et seq.); the Clean Water Act (33 U.S.C. §1251 et seq.); the Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.); and the Toxic Substances Control Act (42 U.S.C. §2601 et seq.) or state environmental clean-up

or disclosure acts and statutes as all such acts and statutes exist now or are hereafter amended (such acts and statutes referred to herein as "Environmental Laws")(such substances or gases referred to herein as 'Hazardous Substances') to be stored, located, or discharged on the premises without specific prior written consent of PARA. The contractor shall comply with all Environmental Laws affecting the premises. Contractor covenants to hold PARA, its officers, agents, and employees harmless from and against any loss, costs, damage, or expenses (including attorney's fees and expenses) arising out of the presence of Hazardous Substances (as hereinbefore described) on or about the premises or the violation of any Environmental Laws with respect thereto, the occurrence of which Hazardous Substances on the premises or the violation of any Environmental Laws shall have arisen solely from the acts or omissions of Contractor, its subcontractors, agents, invitees, and employees. This indemnity shall survive the termination of this contract and shall be to the benefit of PARA, its successors, and assigns.

ARTICLE V. INSURANCE, LIABILITY, ETC.

A. Contractor's Insurance (Generally):

1. **Insurance Required.** The Contractor shall not commence work under this contract until it has obtained all insurance required by the Contract documents and has accepted such insurance by PARA. The Contractor shall maintain the required insurance during the contract term, including any extensions of the term.

Insurance shall be written in comprehensive form by insurance companies rated A- or better by A. M. BEST and shall protect the Contractor and PARA against claims for injuries to members of the public (including PARA employees) or damages to property of others (including PARA property) arising out of any act of the Contractor or any of its agents, employees or subcontractors and shall cover both on-site and off-site operations under this contract and insurance coverage shall extend to any motor vehicles or other related equipment, irrespective of whether the same is owned, non-owned or hired.

Obtaining and maintaining the insurance required herein by the Contractor and subcontractors does not relieve the Contractor of any responsibilities, obligations, or duties to PARA pursuant to this contract.

2. **Additional Insurance.** The Contractor shall have an insurance professional review the Contractor's activities under this contract, and the Contractor shall obtain any additional insurance or greater limits as recommended by the insurance professional.

3. **Insurance Limits.** Neither the setting of insurance limits or requirements nor the acceptance or approval of the same by PARA implies or represents that the limits or the insurance carrier are sufficient or that such insurance has been obtained; that is the responsibility of the Contractor.

4. **Subcontractors.** The Contractor shall require all subcontractors to take out and maintain the type of insurance required herein to the extent of their involvement in the Project to be adequate to protect against liability. Suppose any work under this Contract is performed by a subcontractor(s). In that case, the Contractor shall remain responsible for any liability arising directly or indirectly from the work performed under this Contract, regardless of whether the subcontractor's insurance covers such work. The Contractor shall not allow any subcontractor to commence work on the project until all similar

insurance required of the subcontractor has been obtained. All subcontractors shall maintain the required insurance during the contract term, including any extensions of the term.

5. PARA's Right to Review Coverage. PARA shall have the right to inspect and approve the Contractor's insurance coverage as required herein. Should PARA deem it advisable to modify the coverage in any way, it shall so request of the Contractor in writing, and should the Contractor fail to modify the coverage, then PARA may pay the cost of any increased coverage or take credit for any decreases as may be appropriate. Review or acceptance of insurance by PARA or its representatives shall not relieve or reduce the Contractor's responsibility hereunder.

6. Waiver of Subrogation. To the extent that the Contractor is required to maintain insurance coverage for loss of or damage to property or for bodily injury, including Builders Risk All Risk insurance, the insurance must waive, and the Contractor hereby waives subrogation of claims against PARA, its officers, agents, and employees.

7. PARA as Additional Insured. PARA shall be named as an additional insured on the Contractor's and any subcontractor's policies for ongoing and completed operations for up to two (2) years for any claims arising from work performed under this Contract. The Contractor shall provide PARA with a Certificate of Insurance naming PARA as an additional insured using ISO for CG 2010 1185 (or a substitute form providing equivalent coverage) or on the combination of ISO forms CG 20 10 07 04 or CG 20 33 07 04 and CG 20 37 07 04 (or a substitute or ISO form providing equivalent coverage) naming PARA as an additional insured, giving all parties a 30 notice of cancellation or intent not to renew the insurance, a waiver of subrogation and list any and all exclusions. The coverage available to PARA as an additional insured shall not be less than \$1,000,000 for Each Occurrence, \$2,000,000 General Aggregate (subject to a per-project general aggregate applicable to the project), \$2,000,000 Products/Completed Operations Aggregate, and \$1,000,000 Personal and Advertising injury limits. Additional insured coverage shall apply as primary, noncontributory insurance with any other insurance afforded to PARA and the Contractor.

8. Elevators, Hoists, and Cranes. If the Contractor or a subcontractor will utilize in connection with the performance of the work pursuant to this contract an elevator, material hoist, crane or other equipment, or conveyor, then the Contractor shall take out and maintain or require the subcontractor to take out and maintain insurance that shall protect the Contractor and PARA against claims for injuries to members of the public (including PARA employees) or damages to property of others (including PARA property) arising out of any act of the Contractor or any of its agents, employees or subcontractors resulting from the operation of such elevator, material hoist, crane or other equipment, or conveyor.

B. Insurance:

1. Workmen's Compensation Insurance:

The Contractor shall take out and maintain during the term or any extensions of this contract Workmen's Compensation Insurance as required by Alabama law for all of its employees employed at the site of the Project or off-sites related to the Project and, in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees unless the protection afforded by the Contractor covers such employees.

In case any class of employees engaged in any work under this contract at the site of the Project is not protected under the Workmen's Compensation statute, the Contractor shall provide and shall cause each subcontractor to provide adequate accident insurance for the protection of its employees not otherwise protected.

Water or Navigational Exposure: Where work under this contract may trigger the requirement for Federal Longshoreman's and Harbor Worker's Act and Federal Jones Act or insurance required by other applicable laws or regulations, the Contractor shall obtain the same if required.

2. Comprehensive Automobile and Vehicle Liability Insurance:

The Contractor shall maintain comprehensive automobile and vehicle liability insurance during the term or any extensions of this contract.

The limits of liability shall not be less than \$1,000,000 combined single limit or equivalent.

3. Commercial General Liability Insurance:

The Contractor shall maintain, during the term or any extensions of this contract, Commercial General Liability Insurance, including officers, agents, and employees.

The limits of liability shall not be in an amount less than \$5,000,000 for any one occurrence of bodily injury, including death and property damage liability.

4. Owner's Protective Insurance:

For projects with a contract amount of \$500,000.00 or greater, an Owner's Protective Policy is required in the minimum amount of \$2,000,000 for each occurrence. Provided; however, PARA may require such insurance on projects of lesser amount if an insurance limit amount is stated herein.

5. Umbrella Excess Liability Over Primary Insurance:

The Contractor shall take out and maintain Umbrella Excess Liability Insurance during the term of this contract and any extensions thereof. The minimum limits of coverage shall be as follows:

Each Occurrence \$ _____

Aggregate \$ _____

The coverage shall be over the required general and automobile liability insurance as a minimum. There shall be no gaps or sub-limit deductibles, etc.

6. Miscellaneous Insurance:

The Contractor shall provide whatever insurance may be required of PARA or the Contractor by permits or agreements, etc., with the railroad, highways, or other utilities. The Contractor shall familiarize himself with all insurance requirements contained in easements, permits, and agreements associated with this Project. The Contractor shall provide any Railroad Protective Liability and other General Liability Insurance in the amounts contained in the agreements, permits, or easements or in greater amounts if

higher limits are appropriate or required elsewhere. The Contractor shall bear the cost of all required insurance and shall include sufficient in his bid to cover such costs. To the extent PARA obtains permits or licenses for railroad or highway bores, crossings, or other work involved in the Project, the Contractor shall obtain adequate insurance to protect itself and PARA.

7. Builder's Risk All-Risk Insurance:

To the extent applicable to the Project, the Contractor shall secure and maintain, during the term of this Contract, Builder Risk All-Risk Insurance coverage for 100 percent of the Contract Price. This insurance shall not exclude coverage for earthquakes, landslides, tornadoes, floods, collapses, or losses resulting from faulty workmanship. Such insurance shall also provide for any damage caused by injury to or destruction of tangible property, including loss of use resulting therefrom, and shall pay all losses to the Contractor and PARA as their interests may arise.

If this is a trade contract under a Program Manager format, the provisions of this subsection shall not apply.

8. Proof of Carriage of Insurance:

The Contractor shall furnish PARA with satisfactory proof of coverage for the insurance required herein, in the form of an insurance certificate or, if PARA elects, a policy. Insurance shall be in a form satisfactory to PARA.

(A) The Contractor's and any subcontractor's general liability and automobile liability insurance shall endorse the Owner (PARA), its officers, agents, and employees as additional insured for any claims arising from work performed under this contract.

(B) The Contractor's insurance endorsing the Owner and others as an additional insured shall be "primary" and noncontributory as to such endorsed insured.

(C) Cancellation: The certificate and policy shall state that PARA shall be given thirty (30) days' written notice of cancellation or any change in the insurance coverage.

(D) There shall be a statement that the Contractor and any subcontractors waive subrogation as to PARA, its officers, agents, employees, and Program Coordinator.

(E) A statement shall be that full aggregate limits apply per job or contract.

(F) Agents' verification of Contractor's insurance on a form provided by PARA or equivalent.

(G) Insurance shall contain no exclusions for x, c, or u.

(H) Full aggregate limits must apply per job or contract.

C. No Personal Liability of PARA Officers, Directors, or Employees: In carrying out any of the provisions hereof in exercising any authority granted by the Contract, there will be no personal liability upon any PARA officer, director, or employee.

D. Indemnity: To the maximum extent permitted by law, the Contractor shall save harmless, indemnify, and defend PARA, its officers, agents, and employees from and against any and all claims and losses, cost, expense or liability, including attorney's fees and litigation costs caused by, arising out of, resulting from, or occurring in connection with the performance of the work by the Contractor or any subcontractor, regardless of the fault, breach of contract, or negligence of PARA, its officers, agents or employees excepting only such claims or losses that have been adjudicated to have been caused solely by the negligence of PARA and regardless of whether or not the Contractor is or can be named a party in a litigation.

Contractor agrees to indemnify and/or reimburse PARA for any fines, violations, charges, suits, or sums of money imposed by the Alabama Department of Environmental Management (ADEM), Environmental Protection Agency (EPA), or any administrative agency on PARA for any sewage or contaminate discharged or Wetlands regulations violation as a result of or arising out of the work by the Contractor pursuant to this agreement.

E. Errors and Omissions. The Contractor does agree to release and hold harmless PARA or any of its officers, agents, and employees, and its Program Coordinator from any damages claimed by the Contractor or subcontractors resulting from or attributable in whole or in part to errors in or omissions of the plans and specifications, including final drawings of the Engineer/Architect or other design professionals. As to plans, specifications, or designs prepared by independent design professionals, the parties agree that any PARA review or approval thereof was only for overall suitability, maintenance, and usability, and that PARA makes no express or implied warranties as to the adequacy, accuracy, correctness, or code compliance thereof.

F. Exclusion of Contractor Claims: In performing its obligations, the Engineer/Architect and its consultants may cause expense for the Contractor or its subcontractors and equipment or material suppliers. However, those parties and their sureties shall maintain no direct action against PARA or its officers, employees, agents, and program coordinator for any claim arising out of, in connection with, or resulting from the Engineering services performed or required to be performed, where such services are performed in good faith to protect PARA or the Public.

G. Inadequate Surety/Insurance. It is further mutually agreed between the parties hereto that if, at any time after the execution of this agreement, any of the surety bonds of the Contractor or subcontractors relating to the Project for its faithful performance shall be deemed by PARA to be unsatisfactory, or if for any reason such bond(s) ceases to be adequate to cover the performance of the work or the surety ceases to do business by agent in Tuscaloosa County, Alabama, the Contractor shall, at its expense, within five (5) days after the receipt of notice from PARA so to do, furnish an additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to PARA. In such an event, no further payment to the Contractor shall be deemed due under this agreement until such new or additional security for the faithful performance of the work is furnished in a manner and form satisfactory to PARA.

H. Changes. When changes in the scope of work by written order or change orders aggregate in an amount equal to 10 percent of the total contract, including the change order or change orders, the insurance coverage included under this heading shall be increased accordingly by the Contractor. Proof of coverage shall be established by endorsement to the original policy, by reissue of the original policy to include the added coverage, or in accordance with any other acceptable policy with the insuring company for increasing the coverage.

ARTICLE VI. OBSERVATION OF THE PROJECT

A. Generally: The Contractor shall furnish the Engineer/Architect and/or PARA's representative with every reasonable facility for ascertaining whether the work performed is in accordance with the requirements and intent of the Specifications and Contract Documents. No work shall be done without suitable inspection by the Engineer/Architect's Inspector or PARA's observer. Payment for work or failure to reject any defective work shall not in any way prevent later rejection when such defect is discovered, nor obligate PARA to final acceptance. All work done when not in accordance with the Plans, specifications, and contract will be rejected and, without cost to PARA, shall be removed immediately, and other work done in accordance therewith by the Contractor shall be retained. If the Contractor fails to remove the work as above ordered, the Engineer/Architect shall have the right and authority to stop the Contractor and his work immediately, and PARA may correct the work as herein provided at the cost and expense of the Contractor.

Inspection is not acceptance and shall not constitute acceptance by PARA.

The work shall also be subject to inspection by PARA representatives.

B. Observation of the Project: The Engineer/Architect, PARA and its observers, agents, any agency having jurisdiction, and their representatives shall always have access to the Project for inspection whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection. PARA or the Engineer/Architect may appoint or assign observers, with designated duties and restricted authority, to inspect the Project as may be directed, or to make special observations requested in advance by the Contractor, and to report the progress of the Project, the manner of procedure, quality of the material and workmanship, and compliance with the Contract Documents.

Inspection or observation is not acceptance and shall not constitute acceptance by PARA.

All materials, workmanship, equipment, processes of manufacture and construction methods shall be subject to inspection, examination, and test by such persons at all places where such manufacturing and/or construction are being carried out. The Engineer/Architect shall have the right to reject material, workmanship, and/or equipment that are defective or otherwise not in accordance with the drawings and Specifications and require its correction by the Contractor. Rejected workmanship shall be satisfactorily corrected, and rejected material shall be satisfactorily replaced with proper material by the Contractor without charge therefor. The Contractor shall promptly segregate and remove the rejected material from the premises. Provided; however, neither the presence nor absence of such observers nor the giving or failure to give such advice, direction, or instruction shall relieve the Contractor from any contract requirement.

Upon rejection of material and/or workmanship by the Engineer/Architect or PARA, there may be occasions where such deficiencies may be corrected more economically and timely through modification of the design versus removal and replacement. In such instances, the Engineer/Architect shall provide design services on behalf of PARA necessary for analysis and correction of the rejected work. Costs associated with hourly fees for these professional services shall be paid by PARA and deducted from the payment to the Contractor based on the actual costs incurred. Prior to beginning any analysis and accrual of associated professional service fees, the Engineer/Architect shall provide the Contractor and PARA notice in writing of the intent to begin, a summary of the scope of work, estimated time to complete, and

estimated total fees. Any costs associated with corrective work performed by the Contractor to remedy such deficiencies shall be the sole responsibility of the Contractor.

Neither PARA observers nor the Engineer/Architect will be authorized to revoke, alter, relax, or waive any requirements of the Contract Documents; to issue instructions contrary to the drawings and Specifications; nor shall they supervise and direct work for the Contractor, nor unreasonably interfere with the Contractor's operations beyond the extent necessary to make certain that the Project is being carried out according to the contract requirements.

Any advice that they may give the Contractor shall not be construed as binding PARA in any way, nor as releasing the Contractor from any of the contract requirements.

If the Contractor considers any work demanded of it to be outside the contract requirements or any ruling of the Engineer/Architect or an inspector to be unfair, it may immediately, upon such work being demanded or ruling made, request written instructions from the Engineer/Architect, or inspector, or within ten days file an appeal to the Engineer/Architect or PARA, stating clearly and in detail the basis of its objections. However, pending the decision on such appeal, no work shall be done in disregard of the rulings of the Engineer/Architect or inspector or his instructions on items of work affected by such appeal.

The Contractor shall furnish promptly, without extra compensation, all reasonable facilities, labor, and material necessary for safe and convenient access, inspection, and tests that may be required by the Engineer/Architect.

C. Authority and Duties of Observers: If PARA or consultant inspectors, whether for the Engineer/Architect or Program Manager, are being utilized, they shall be authorized and permitted to inspect all work done. The Inspector shall not be authorized to alter or waive any requirements of the Specifications. He shall have the authority to call the Contractor's attention to any failure of the work to conform to the specifications and the Contract. He may suspend the Project until any questions at issue can be referred to and decided by the Engineer/Architect or PARA.

Neither the Engineer/Architect, Inspector, PARA, nor other representatives for PARA shall be responsible in any way for construction means, methods, or techniques, nor for the safety of the construction work, progress, or employees of the Contractor or any subcontractors, except as set forth in the Program Manager contract, if applicable.

The presence of the Inspector shall not in any manner lessen the Contractor's responsibility under this agreement.

D. Defective Work/Correction of Work by PARA: The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill its contract, and defective work shall be made good, notwithstanding that such work has been previously inspected by the Engineer/Architect and accepted or estimated for payment. The failure of the Engineer/Architect or inspector to condemn improper workmanship shall not be considered a waiver of any defect, whether known at the time or discovered later, or as preventing PARA at any time subsequently from recovering damages for defective work. The Contractor shall guarantee all work against defects in workmanship for a period of one year from the date of final payment.

Upon failure and/or neglect by the Contractor to promptly prosecute or perform the work in accordance with the contract documents, including any requirements with respect to the construction schedule, plans, or specifications, PARA may, without prejudice to any other remedy it may have, correct such deficiencies, and may deduct the actual cost thereof from payment, then or thereafter due to the Contractor.

E. Disagreement: Should any disagreement or difference arise as to the estimated quantities or classifications or as to the meaning of the drawings or specifications, or any point concerning the character, acceptability, or nature of the several kinds of work, or construction thereof, the decision of the Engineer/Architect shall be final and conclusive and binding on the Contractor.

F. Stop Work Orders: During unseasonable weather, all work must stop when the Engineer/Architect so directs, and all work must always be suitably protected by the Contractor. However, the Engineer/Architect shall not be obligated to stop work on the Project. If the Project is stopped, the Contractor shall not be entitled to additional compensation for delays or problems arising from the stoppage.

G. Progress Meetings: The Contractor shall hold regular progress meetings during the Project at least once a month, or more often if requested by PARA or the Engineer/Architect. The meetings shall be held at a site convenient to all parties; if no site can be agreed upon, PARA will designate one.

The Contractor or designated representative, the Contractor's Superintendent, all subcontractors, engineers, inspectors, and PARA's representative shall attend.

The Contractor shall keep accurate written meeting minutes and forward copies to the Engineer/Architect and PARA's representative before the next meeting.

If a trade contract is in place, progress meetings will be conducted by the Program Manager, who will keep minutes. All trade contractors shall attend unless excused by the Program Manager.

ARTICLE VII. PROJECT COMPLETION

A. Substantial Completion: "Substantial completion" shall be that degree of completion of the Project or a defined portion of the Project, as evidenced by the Engineer/Architect's written notice of Substantial Completion, sufficient to provide PARA, at its discretion, the full-time use of the Project or defined portion of the work for the purposes for which it was intended. "Substantial Completion" of an operating facility or operating component of the Project shall be that degree of completion that has provided a minimum of seven (7) continuous days of successful, trouble-free operation in a "fully automatic" manner acceptable to PARA and Engineer/Architect and with all redundant systems fully operational. All equipment included in the Project, plus all other components necessary for the owner to operate the facility as intended, shall be in place by the substantial completion date.

When the Contractor considers that the Project, or where acceptable to PARA, a designated portion thereof is substantially complete, the Contractor shall prepare and submit to the Engineer/Architect a list of items to be completed or corrected and request an inspection for Substantial Completion. The Contractor's failure to include any items on such list does not alter the Contractor's responsibility to complete all work in accordance with the Contract Documents. After inspection and/or if an operating facility, after a minimum of seven (7) continuous days of successful, trouble-free operation, has been achieved during startup, the Engineer/Architect may, at his sole discretion, issue a written notice of substantial completion for the purpose of establishing the starting date for specific equipment guarantees or warranties, and to establish the date that PARA will assume the responsibility for the cost of operating such equipment.

Said notice shall not be considered as final acceptance of any portion of the Project or relieve the Contractor from completing the remaining work, including any remaining performance or acceptance testing, within the specified time and in full compliance with the Contract Documents. Specifically, the issuance of a written notice of Substantial Completion shall not relieve the Contractor of his obligation to promptly remedy any omissions and latent or unnoticed defects in the Project covered by the written Notice of Substantial Completion.

B. Final Inspection: Upon notice from the Contractor that its work is complete, the Engineer/Architect and/or other representatives of PARA shall make a final inspection of the work or Project and conduct tests or tests if applicable. The Engineer/Architect shall notify the Contractor of all apparent and/or visible instances where the Project fails to comply with the plan specifications and contract documents, as well as any defects he may discover (punch list). The Contractor shall immediately make such alterations as are necessary to make the Project comply with the plans and specifications and to the satisfaction of the Engineer/Architect.

Upon completion of all such repairs in a satisfactory manner, and when the Engineer/Architect has determined that the work or Project is acceptable under the contract, including this provision, and after publication of final completion and all other requirements of final payment as provided for in this agreement, then he shall issue a final certificate of payment to PARA stating that the balance is due the Contractor, less such amounts as may have been withheld by PARA from time to time as provided in the contract documents. In recommending to PARA that it make such final payment to the Contractor, the Engineer/Architect shall also issue a certificate of final acceptance wherein he shall recommend to PARA that it accept the Project and/or work as final and complete pursuant to the contract documents.

Verification, approval, inspection, final inspection, issuance of final acceptance, issuance of final certificate of payment, action, or approval by PARA upon the final certificate of payment or final acceptance shall not in any way relieve the Contractor of responsibility for faulty materials or workmanship.

All warranty or guarantee periods shall commence and start to run from the date of substantial completion.

~~**C. "As Built" Drawings:** Unless waived by the PARA representative, the Contractor must provide to PARA a set of "as built" drawings acceptable to PARA as a component part of the Project prior to final payment.~~

D. Final Cleanup: Before final completion and final acceptance, the Contractor shall remove from PARA's property or rights-of-ways and from all public and private property all tools, scaffolding, falsework, temporary structures, and/or utilities, including the foundations thereof (except such as PARA permits in

writing to remain); rubbish and waste materials resulting from its operation or caused by its employees; and shall remove all surplus materials, leaving the site clean and true to line and grade, and the Project in a safe and clean condition ready for use and operation. In addition to the above, the Contractor shall be responsible for the following special cleaning for all trades as the Project shall have been completed:

1. Cleaning of all painted, enameled, stained, or baked enamel work: removal of all marks, stains, fingerprints, and splatters from such surfaces.
2. Cleaning of all glass: cleaning and removing all stickers, labels, stains, and paint from all glass and washing and polishing of the same on the interior and exterior.
3. Cleaning or polishing all hardware.
4. Cleaning all tiles and floor finishing of all kinds; removing all splatters, stains, paint, dirt, and dust; washing and polishing all floors as recommended by the manufacturer or required by the Engineer/Architect.
5. Cleaning of all manufactured articles, materials, fixtures, appliances, and equipment; removal of all stickers, rust stains, labels (except instructional and/or safety labels), and temporary covers and cleaning and conditioning of all manufactured articles, materials, fixtures, appliances, electrical, heating and air conditioning equipment as recommended or directed by the manufacturers, unless otherwise required by the Engineer/Architect; blowing out or flushing out of all foreign matter from all dust pockets, piping, tanks, pumps, fans, motors, devices, switches, panels, fixtures, boilers, similar features; and freeing identification plates on all equipment or excess paint and the polishing thereof.

In the case of failure to comply with the above requirements for any part of the Project within the time specified by the Engineer/Architect, he may cause the work to be done and deduct the cost thereof from the contract price on the next or succeeding application for payment, or if the cost exceeds the balance due the Contractor, bill the Contractor for the excess.

E. Notice of Completion: The Contractor shall, immediately after the completion of the Project and acceptance by the Owner as provided for herein, give notice as required by Ala. Code §39-1-1(f) by an advertisement in some newspaper of general circulation published within the city or county wherein the Project has been done for a period of four (4) successive weeks. The advertisement shall advise interested parties to contact both the Contractor and the specific PARA representative. PARA's representative shall be named along with his proper mailing address. In no instance shall a final payment be made upon the contract until the expiration of thirty (30) days after the completion of the notice. Proof of publication of said notice shall be made by the Contractor to PARA by affidavit of the Publisher and a printed copy of the notice published.

Provided, however, that the requirements hereinabove stated for notice and advertisement shall not apply to contractors performing contracts of less than Fifty Thousand Dollars (\$50,000.00) in amount, and the governing body of PARA so as to expedite final payment shall cause notice of final completion of such contract to be published one time in Tuscaloosa County and shall post notice of final completion on PARA's bulletin board for one (1) week and shall require the Contractor to certify under oath that all bills have been paid in full. Final settlement with such Contractor may be made at any time after the notice shall have been posted for one (1) entire week.

F. Final Payment:

Upon completion of the Project by the Contractor and acceptance by PARA's representatives of all work required of the Contractor for the Project, but not until thirty (30) days after completion of the notice, the amount due the Contractor pursuant to the Contract Documents shall be paid upon the presentation by the Contractor to PARA's representative of the following:

1. A properly executed and duly certified voucher for payment, verified by architect, engineer, or other PARA representative, including therewith evidence that all payrolls and all amounts due for labor and materials, other than claims for damages due to tort, have been fully paid and satisfied and there are no outstanding claims or demands associated with the work on the Project.
2. A release of all claims and claims of lien against PARA from the Contractor and all major subcontractors (PARA may waive the requirement for subcontractor releases) arising under and by virtue of the contract, on the form attached, duly executed by the Contractor and with the consent of the surety. The Contractor may specifically accept claims of the Contractor from the operation of the release if specifically excepted therefrom in stated amounts and the reason, therefore.
The Contractor may, with the consent of the PARA representative, furnish a bond with surety satisfactory to the PARA representative to indemnify against such claims if any subcontractor refuses to furnish such a release.
3. Proof of publication of notice of completion, including an affidavit from the publisher and a printed copy of the notice so published, as provided by law.
4. In accordance with Ala. Code §39-2-12(c), a non-resident contractor shall satisfy PARA that they have paid all taxes due and payable to the State, PARA, and all applicable political subdivisions.

G. Acceptance of Final Payment Constitutes Release: The acceptance by the Contractor of the final payment shall release PARA, the Engineer/Architect, as representatives of PARA, and their officers, employees, agents, and sub-consultants from all claims and all liability to the Contractor for all things done or furnished in connection with the Project, and every act of PARA and others relating to or arising out of the work except claims previously made in writing and still unsettled. No payment, however, final or otherwise, shall operate to release the Contractor or his Sureties from obligations under this Contract and the Performance Bond, Payment Bond, and other bonds, warranties, and guarantees as herein provided.

ARTICLE VIII. WARRANTY AND GUARANTEES

A. Warranty and Guarantee:

1. Warranty: The Contractor warrants to PARA and the Engineer/Architect that all materials and equipment furnished under this Contract will be new unless otherwise specified and that all work, materials, and equipment will be of good quality, free from fault and defects and in conformance with the contract documents. The work must be safe, substantial, and durable construction in all respects. All

work, materials, and equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Warranties shall commence to run from the date of substantial completion.

The work furnished must be of first quality, and the workmanship must be the best obtainable in the various trades. The Contractor hereby guarantees the Project and the work on the Project against defective materials or faulty workmanship for a minimum of one (1) year after final payment by PARA and shall replace or repair any defective materials or equipment or faulty workmanship during the period of guarantee at no cost to PARA.

2. Guarantee: If, within the designated warranty period or if not designated, within one (1) year from the date of substantial completion, any of the work, materials, or equipment is found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of written notice from PARA to do so unless PARA has previously specifically given the Contractor a written acceptance of such specific condition. This obligation shall survive termination of the Contract. PARA shall promptly give such notice after discovery of the condition.

B. Correction of Defective Work During Warranty/Guarantee Period: The Contractor hereby agrees to make, at his own expense and no cost to PARA, all repairs or replacements necessitated by defects in materials or workmanship, provided under the terms of this Contract and pay for any damage to other works resulting from such defects, which become evident within one year after the date of substantial completion unless substantial completion is established by the Engineer/Architect only for specified items of equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents unless PARA has previously given the Contractor a written acceptance of such defects. The Contractor shall promptly correct such defects upon receipt of written notice from PARA. This obligation shall survive the termination of the Contract.

Unremedied defects identified for correction during the warranty period described herein but remaining after its expiration shall be considered part of the warranty obligations. Defects in material, workmanship, or equipment that are remedied under the warranty shall subject the remedied portion of the Project to an extended warranty period of 1 year after the defect has been remedied.

Repeated malfunction of equipment shall be grounds for equipment replacement and an extension of the guarantee period for the equipment to the date 1 year following acceptable replacement.

The Contractor further assumes responsibility for a similar guarantee for all work and materials provided by subcontractors or manufacturers of packaged equipment components.

The Contractor also agrees to hold PARA, the Engineer/Architect, and their employees harmless from liability or damages, including the Engineer/Architect's and attorneys' fees, costs, and expenses of litigation of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of a written order from PARA. If the Contractor fails to make the repairs and replacements promptly, or in an emergency where delay would pose a serious risk of loss or damage, PARA may have the defective work corrected or the rejected work removed and replaced, and the Contractor and his Surety shall be liable for the cost thereof. The Contractor, during the warranty period, shall repair/replace, as rapidly as possible, any and all equipment, materials, etc., that are found to be defective. Should any items not be repaired/replaced within thirty (30) days from the time they are reported to the Contractor by PARA, the warranty period for that item shall be extended for a period

equal to the time the item has remained defective, incomplete, or inoperable, as determined by PARA. The Contractor must certify that the item has been corrected.

PARA's rights under this Article shall be in addition to, and not a limitation of, any other rights and remedies available by law.

ARTICLE IX. LAWS, PERMITS, ETC.

A. Laws and Regulations/Royalties, Patents, Copyrights and Permits and Rights-of-Way: The Contractor shall comply with and keep itself fully informed of all laws, ordinances, and regulations of federal, state, city and county in any manner affecting those engaged or employed in the Project, or the materials used in the Project, or in any way affecting the conduct of the Project, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. The Contractor shall possess all permits and licenses required by applicable law, rule, or regulation for the performance of the Project. If any discrepancy or inconsistency should be discovered in this contract or in the drawings or specifications herein referred to in relation to any law, ordinance, regulation, order, or decree, it shall report the same in writing to the Engineer/Architect. It shall at all times observe and comply with all existing and future laws, ordinances, and regulations.

The Contractor shall protect and indemnify PARA, Engineer/Architect, and their respective employees, officers, sub-consultants, and agents against any claim or liability arising from or based on the violation of any such laws, ordinances, or regulations. All permits, licenses, and inspection fees necessary for prosecution and completion of the Project shall be secured and paid for by the Contractor unless otherwise specified.

The Contractor shall obtain and pay for all licenses and permits and shall pay all fees and charges for connection to outside service and the use of property required for the execution and completion of the Project.

The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and code requirements applicable in or bearing on the conduct of the Project unless in conflict with contract requirements. If the Contractor ascertains at any time that any requirements of the Contract are at variance with applicable laws, ordinances, regulations, or building code requirements, it shall promptly notify the Engineer/Architect, and any necessary adjustment of the Contract will be made as herein specified under a change in orders.

The Contractor shall pay all applicable federal, state, and local taxes and assessments on the Project. Wherever the law of the place of building requires a special tax, consumer, use, occupation, or other tax, the Contractor shall pay such tax.

The Contractor shall pay all royalties and license fees. The Contractor shall hold and save PARA and its agents and employees harmless from liability of any nature or kind, including costs and expenses, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by PARA.

The Contractor shall perform all work in compliance with and as required by any State, Federal, or Local registration, permit, or license, the terms and conditions of which are adopted herein by reference. The Contractor agrees to indemnify and hold harmless PARA, Engineer, and their respective officers, agents, and employees from any fines, penalties, damages, claims, liability, or judgment arising out of or in any manner associated with the Contractor's failure to perform work on the Project in strict accordance with all stormwater registration, permit or license requirements.

ARTICLE X. MISCELLANEOUS CLAUSES

A. PARA Representative: Randall H. Smith, PE. LEED AP

B. Contractor Representative: The Contractor's representative on this Project is hereby designated as _____ and whose address is _____.

C. Capacity: Each party to this agreement represents and warrants to the other as follows:

1. That it is an individual of the age of majority or otherwise a legal entity duly organized and in good standing pursuant to all applicable laws, rules, and regulations.
2. That each has full power and capacity to enter into this agreement, to perform, and to conclude the same, including the capacity, to the extent applicable, to grant, convey, and/or transfer areas, assets, facilities, properties, (both real and personal), permits, consents and authorizations and/or the full power and right to acquire and accept the same.
3. That to the extent required, each party has obtained the necessary approval of its governing body or board, and a resolution or other binding act has been duly and properly enacted by such governing body or board authorizing this agreement and said approval has been reduced to writing and certified or attested by the appropriate official of the party.
4. That each party has duly authorized and empowered a representative to execute this agreement on their respective behalf, and the execution of this agreement by such representative fully and completely binds the party to the terms and conditions hereof.
5. That absent fraud, the execution of this agreement by a representative of the party shall constitute a certification that all such authorizations for execution exist and have been performed. The other party shall be entitled to rely upon the same. To the extent a party is a partnership, limited liability company, or joint venture, the execution of this agreement by any member thereof shall bind the party, and to the extent that the execution of the agreement is limited to a manager, managing partner, or specific member then the person so executing this agreement is duly authorized to act in such capacity for the party.

6. That each party represents and warrants to the other that there is no litigation, claim, or administrative action threatened or pending or other proceedings to its knowledge against it which would have an adverse impact upon this transaction or upon either party's ability to conclude the transaction or perform pursuant to the terms and conditions of this agreement.
7. That each party has obtained all required permits, approvals, and/or authorization from third parties to enable it to perform pursuant to this agreement fully.
8. Under the provisions of the Constitution and laws of the State of Alabama, each party has the power to consummate the transactions contemplated by this agreement.
9. Each party represents and warrants that the execution and delivery of this agreement and the consummation of the transactions contemplated herein will not conflict with, be in violation of, or constitute (upon notice or lapse of time, or both) a default under the laws of the State of Alabama, any resolution, agreement, or other contract agreement, or instrument to which a party is subject, or any resolution, order, rule, regulation, writ, injunction, decree or judgment of any governmental authority or court having jurisdiction over the party.
10. This agreement constitutes the legal, valid, and binding obligation of each party and is enforceable against each party in accordance with its terms, except insofar as the enforceability thereof may be limited by:
 - (a) Bankruptcy, insolvency, or other similar laws affecting the enforcement of creditors' rights
 - (b) General principles of equity, regardless of whether such enforceability is considered as a proceeding at equity or at law.
11. Neither party will enter into any agreement to do anything prohibited in this agreement or enter into any agreement or take any action which would impair the other party's ability to perform its obligations hereunder faithfully and fully.
12. Under the provisions of the Constitution and laws of the State of Alabama, each party has the power to consummate the transactions contemplated by this agreement.

D. Ownership of Contract Documents: The Contract Documents and copies of parts thereof are furnished and owned either by PARA or the Engineer/Architect. All portions of the Contract Documents, and copies thereof, are instruments of service for this Project. They are not to be used for other work and are to be returned to PARA upon request upon completion of the Project. Any reuse of these materials without specific written verification or adaptation by PARA will be at the user's risk, with no liability or legal expense to PARA or the Engineer/Architect. Such users hold PARA, its officers, agents, and employees harmless from all damages, including reasonable attorneys' fees, arising from any such reuse. Any such verification and adoption shall entitle PARA to further compensation at rates to be agreed upon by the user and PARA.

F. No Waiver of Rights: Neither the inspection by PARA or the Engineer/Architect or any of their officers, employees, agents, or sub consultants, nor any order by PARA for payment of money, nor any payment for, or acceptance of, the whole or any part of the Project by PARA or Engineer/Architect, nor any extension of time or change order, nor any possession taken by PARA or its employees, or nonenforcement of any provision of this agreement by either party shall operate as a waiver of any provision of this agreement, or any power herein reserved to PARA, or any right to damages, nor shall any waiver of any breach in this agreement be held to be a waiver of any other or subsequent breach. Acceptance of final payment shall not be final and conclusive regarding latent defects, fraud, or such gross mistakes as may amount to fraud or as regards PARA's rights under any warranty.

G. Subletting or Assigning of Contract:

1. Limitations: The Contractor shall not sublet, assign, transfer, convey, sell, or otherwise dispose of any portion of the agreement, his obligations, right, or interest therein, or its power to execute such agreement, to any person, firm or corporation without the written consent of PARA and such written consent shall not be construed to relieve the Contractor of any duty or responsibility for the fulfillment of the agreement. A sale, conveyance, or transfer of 50% or more of the Contractor's stock or ownership shall be considered an assignment. Provided, however, in no event shall any portion of this agreement be assigned to an unsuccessful bidder whose bid was rejected because he or she was not a responsible or responsive bidder. Use of subcontracts up to a combined (total) value of 50 percent of the value of all work will not be construed as an assignment. Unless otherwise stipulated in the proposal or general conditions, the Contractor shall perform, with its own organization, work valued at not less than fifty (50) percent of the value of all work embraced in the contract.
2. Subcontractor's Status: A subcontractor shall be recognized only in the capacity of an employee or agent of the Contractor.

H. Third Party Beneficiaries: It is the parties' intent hereto that there shall be no third-party beneficiaries to this agreement.

I. Final Integration: This Agreement constitutes the parties' entire agreement as complete and final integration thereof with respect to its subject matter. All written or oral understandings and agreements between and among the parties are merged into this Agreement, which alone fully and completely expresses their understandings. No representation, warranty, or covenant made by any party which is not contained in this Agreement or expressly referred to herein has been relied on by any party in entering into this Agreement.

J. Force Majeure: Neither party to this Agreement shall hold the other party responsible for damages or delay in performance caused by acts of God, strikes, lockouts, or other circumstances beyond the reasonable control of the other or the other party's employees, agents, or contractors.

K. Amendment in Writing: This Agreement may not be amended, modified, altered, changed, terminated, or waived in any respect whatsoever, except by further agreement in writing, properly executed by all the parties.

L. Binding Effect: This agreement shall bind the parties and their respective personal representatives, heirs, next of kin, legatees, distributees, successors, and assigns.

M. Captions: The captions of this Agreement are for convenience and reference only, are not a part of this Agreement, and in no way define, describe, extend, or limit the scope or intent of this Agreement.

N. Construction: This Agreement shall be construed in its entirety according to its plain meaning and shall not be construed against the party who provided or drafted it.

O. Mandatory and Permissive: "Shall," "will," and "agrees" are mandatory; "may" is permissive.

P. Governing Laws: The laws of the State of Alabama shall govern the validity of this Agreement, the construction of its terms, the interpretation of the rights, the duties of the parties, the enforcement of its terms, and all other matters relating to this Agreement.

Q. Liability of PARA or PARA Officials. Notwithstanding any provision hereof to the contrary, the parties agree and acknowledge that the liability and obligations of PARA, PARA officials, or PARA employees as set forth herein are subject to the limitations imposed on public corporations by the Constitution and laws of the State of Alabama. No present or future official, officer, or employee of PARA shall ever be personally liable for performing any obligations hereunder.

R. Non-Discrimination: The Contractor agrees that in performing the work and services as required herein under this agreement, not to discriminate against any person based on race, color, religion, sex, age, or disability. (The Contractor shall fully comply with the Americans with Disabilities Act), the Fair Labor Standards Act, and all other applicable laws and regulations.

S. Fines and Penalties: The Contractor shall be solely liable for all fines or penalties that may be levied by any governmental authority against the Owner and/or Contractor that are related to the Contractor's operations. The Owner shall deduct the amount of the levied fine or penalty from the Contract amount.

T. Agreement Date/Counterparts: The date of this Agreement is intended as and for a date for the convenient identification of this Agreement and is not intended to indicate that this Agreement was necessarily executed and delivered on said date. This instrument may be executed in any number of counterparts, each of which so executed shall be deemed an original. Still, all such counterparts shall together constitute but one and the same instrument.

U. Use of Words and Phrases. The following words and phrases, when used in this document, shall be given the following and respective interpretations: "Herein," "hereby," "hereunder," "hereof," and other equivalent words refer to this document as an entirety and not solely to the portion hereof in which any such word is used.

Unless the text or context indicates otherwise, the definitions set forth in any portion of this Agreement shall be deemed applicable whether the words defined are used herein in the singular or the plural. Wherever used herein, any pronouns shall be deemed to include both singular and plural pronouns and cover all genders.

V. Severability. Each provision of this agreement shall be severable if, for any reason, any such provision or any part thereof is determined to be invalid and contrary to any existing or future applicable law. Such

invalidity shall not impair the operation of or affect the valid portions of this Agreement. Still, this agreement shall be construed and enforced in all respects as if the invalid or unenforceable provision, or any part thereof, had been omitted.

IN TESTIMONY WHEREOF, said Contractor has hereto affixed its signature and said PARA has caused these presents to be executed by Brian Davis, Chief Executive Officer of Tuscaloosa Park & Recreation Authority, and attested by the Executive Assistant, on the day and year first above written, in four counterparts, each of which shall, without proof or accounting for the other, be accepted as an original.

PARTY OF THE FIRST PART/CONTRACTOR

Principal

BY: _____
ITS: _____

**Tuscaloosa County Park & Recreation Authority
CORPORATION/PARTY OF THE SECOND PART, OWNER**

ATTEST:

Senior Executive Assistant

Brian Davis, Chief Executive Officer

STATE OF ALABAMA)
COUNTY OF TUSCALOOSA)

I, _____ a Notary Public in and for said
State at Large, hereby certify that _____, who is
named as _____, has signed the foregoing document, and

- ☐ Who is known to me, or
☐ Whose identity I proved on the basis of _____, or
☐ Whose identity I proved on the oath/affirmation of _____, a credible
witness to the signer of the above document

and that being informed of the contents of the document, he/she, as such officer and with full authority,
executed the same voluntarily on the day the same bears date.

Given under my hand and official seal this the _____ day of _____, 2026.

Notary Public in and for the
State of Alabama at Large

My Commission Expires:

STATE OF ALABAMA)
COUNTY OF TUSCALOOSA)

Before me, the undersigned, a Notary Public in and for the State of Alabama, appeared Brian
Davis, Chief Executive Officer of PARA, and acknowledged that his signature is affixed hereto as such.

Done this the _____ day of _____, 20____.

Notary Public in and for the
State of Alabama at Large

My Commission Expires:

[END OF CONTRACT AGREEMENT]

PARA CONTRACT DOCUMENTS

**SECTION SIX
PERFORMANCE BONDS
(2026)**

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

KNOWN ALL MEN BY THESE PRESENTS, that we, _____

as principal and _____
(hereinafter called the "Surety"), as surety, do hereby acknowledge ourselves indebted and firmly bound and held unto PARA, (hereinafter called "PARA") a public corporation existing under and by virtue of the laws of the State of Alabama, for the use and benefit of those entitled thereto, in the penal sum of _____ or the payment of which well and truly be made in lawful money of the United States, we do hereby bind ourselves, our successors and assigns, and personal representatives, jointly and severally, firmly by the presents.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, PARA has entered into a certain written contract with said Contractor the _____ in accordance with contract documents, therefore on file in the Office of the _____ at the price of, to-wit: _____
(\$ _____) as more fully appears in said written contract bearing the date of _____, 20____, which contract is hereby referred to and made a part hereof to the same extent as if set out herein in full.

NOW, THEREFORE, if the Contractor shall fully and faithfully perform all the undertakings and obligations under the said agreement or contract herein before referred to and shall fully indemnify and save harmless the said PARA from all costs and damages whatsoever which it may suffer by reason of any failure on the part of said Contractor so to do, and shall fully reimburse and repay the said PARA any and all outlay and expense which it may incur in making good any such default, and shall guarantee all workmanship against defects for a period of one year, this obligation or bond shall be null and void. Otherwise, it shall remain in full force and effect.

And, for value received, it is hereby stipulated and agreed that no change, extension of time, alteration, or addition to the terms of said agreement or contract or in the work to be performed thereunder or the specifications accompanying the same shall in any wise affect the obligations of the principal or of the surety under this bond, and notice is hereby waived of any such change, extension of time, alternative of or addition to the terms of the agreement or contract or to the work or to the specifications.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature, and said Surety has hereunto caused to be affixed its corporate signature and seal by its duly authorized officers on the _
_____ day of _____, 20_____.

Principal

By _____
Title

Surety

ATTEST:

By _____

Title

PARA PUBLIC WORKS CONTRACT DOCUMENTS

**SECTION SEVEN
LABOR AND MATERIAL BOND
(2026)**

KNOWN ALL MEN BY THESE PRESENTS, that we, _____
(hereinafter called the "Contractor") of _____
as principal and _____ (hereinafter
called the "Surety"), as surety, do hereby acknowledge ourselves indebted and firmly bound and held unto
PARA (hereinafter called "PARA"), a public corporation, existing under and by virtue of the Laws of the
State of Alabama, for the use and benefit of those entitled thereto, in the penal sum of _____
_____ (\$ _____) for the payment of which
well and truly to be made in lawful money of the United States, we do hereby bind ourselves, or
successors, assigns and personal representatives, jointly and severally, firmly by these presents.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS: PARA has entered into a certain written contract with said Contractor in accordance
with contract documents, therefore on file in the Office of the _____
at the price of, to-wit: _____
(\$ _____) as more fully appears in said
written contract bearing date of _____, 20_____, which contract is hereby
referred to and made a part hereof to the same extent as if set out herein in full.

NOW, THEREFORE, if said Principal and all subcontractors to whom any portion of the work
provided for in the said contract is sublet and all assignees of said Principal and of such subcontractors
shall promptly make payment to all persons supplying him or them with labor, foodstuffs, or supplies for
or in the prosecution of the work provided for in such contract, or in any amendment or extension of or
addition to said contract, and for the payment of reasonable attorney's fees, incurred by the claimant or
claimants in suits on said bond, then the above obligation shall be void; otherwise, it shall remain in full
force and effect.

PROVIDED, however, that this bond is subject to the following conditions and limitations:

(a) Any person, firm, or corporation that has furnished labor, foodstuffs, or supplies for or in
the prosecution of the work provided for in said contract, payment for which has not been made, shall
have a direct right of action in his or their name or names against the principal and surety on this bond,
which right of action shall be asserted in a proceeding, instituted in the county in which the work provided
for in said contract is to be performed and in any county in which said Principal or Surety does business.
Such right of action shall be asserted in a proceeding instituted in the name of the claimant or claimants
for his or their use and benefit against said Principal and Surety or either of them (but not later than one
year after the final settlement of said Contract) in which action such claim or claims shall be adjudicated,
and judgment rendered thereon.

(b) In addition to any other legal mode of service, service of summons and other process in suits on this bond brought in Tuscaloosa County may be had on the Principal or the Surety in accordance with Title 27, Chapter 3, Section 24 of the Ala. Code (1975) by serving a copy of the summons and complaint or other pleading or process, with the Commissioner of Insurance of the State of Alabama or his/ her designee, and the Principal and Surety agree to be bound by such mode of service above described and consent that such service shall be the same as personal service on the Principal or Surety.

(c) The Surety shall not be liable hereunder for any damages or compensation recoverable under any workmen's compensation or employer's liability statute.

(d) In no event shall the Surety be liable for a greater sum than the penalty of this bond or subject to any suit, action, or proceeding thereon that is instituted later than one year after the final settlement of said contract.

(e) This bond is given pursuant to the terms of Title 39, Chapter 1, Section 1 of the Ala. Code (1975), and all the provisions of law with reference to this character of the bond as set forth in said section or as may hereinafter be enacted are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature, and said Surety has hereunto caused to be affixed its corporate signature and seal by its duly authorized officers on the day of _____, 20____.

Principal

By: _____

Title

Surety

ATTEST:

By: _____

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

CONTRACTOR'S RELEASE OF LIENS AND CLAIMS

Project No. _____

THIS Contractor's Release of Liens and Claims is made in accordance with that certain contract between PARA, a Public Corporation (hereinafter "PARA") and _____
_____ (hereinafter the "Contractor" or undersigned), for a project known as _____
_____ regarding which the undersigned warrants and certifies to PARA as follows:

1. That there are no amounts owed by the undersigned or any tier of subcontractor or supplier of the undersigned that could become the basis for a lien or suit against the properties of the Contractor or the property of PARA or any funds held by or in the possession of PARA regarding the Project.

2. That the undersigned has satisfied all claims and indebtedness of every nature in any way connected with the work, including (but not limited to) all payrolls, amounts due to subcontractors, accounts for labor performed and materials furnished, incidental services, liens, and judgments.

3. In consideration of the receipt by the undersigned from PARA of final payment under the above-mentioned contract, the undersigned hereby waives and relinquishes all liens and claims of lien which the undersigned may have against the aforesaid property or funds; and further, the undersigned also hereby remises, releases and forever discharges PARA, its officers, agents and employees, of any and all claims, demands and causes of action whatsoever which the undersigned has, might have or could have against PARA by reason of or arising out of the above-mentioned contract. The undersigned further agrees to indemnify and hold PARA, its officers, agents, and employees harmless from and against any and all claims or demands by subcontractors or suppliers arising out of the contract.

IN WITNESS WHEREOF, the undersigned has duly executed this release this the _____ day of _____, 20_____.

CONTRACTOR:

BY: _____

TITLE: _____

I, _____ after being duly sworn, depose and say as follows: That I am the _____ of _____ and hereby certify that I am duly authorized to execute this Contractor's Release of Liens and Claims.

CONSENT OF SURETY:

SURETY

BY: _____
ATTORNEY-IN-FACT FOR SURETY

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

Sworn to and subscribed before me on this the _____ day of _____, 2026

Notary Public

My Commission Expires:

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

PROJECT NAME _____

PROJECT NO. _____

CONTRACTOR/INSURED

AGENT'S VERIFICATION OF CONTRACTOR'S INSURANCE

This is to certify to PARA, a Public Corporation, that the Contractor in the above-referenced Project does possess a policy or policies of insurance reflected in the Certificate of Insurance issued for the Project by the undersigned agency, of which I am an authorized representative. I have read the contract document as it relates to insurance requirements and said Contractor's insurance is effective as of the dates stated in the certificate and meets or exceeds all ratings, limits, and amounts as required by the same.

This is the _____ day of _____, 20_____.

AGENCY: _____

BY: _____

ITS: _____

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

**NOTICE OF CONDITIONAL BID AWARD
PARA**

TO: _____ _____ _____	Project Name: _____ Project Number: _____ Date: _____
------------------------------------	--

You are hereby notified pursuant to Ala. Code §39-2-6 (1975), PARA has made a conditional bid award to you regarding the above-referenced Project, based on your proposal of \$_____. The above bid award does not include the following additive and/or deductive alternates.

Pursuant to Ala. Code §39-2-8 (1975), you are required to enter into a written contract on the form included in the proposal, plans, and specifications; furnish a performance bond and a payment bond executed by a surety company authorized and qualified to issue such bonds in the State of Alabama, in the amount required by the bid documents; and present evidence of insurance, as required by the bid documents, within the period of time stated therein, or, if no period of time is stated, within thirty (30) days after the prescribed forms have been presented to you for signature.

Pursuant to Ala. Code §39-2-11 (1975), if you fail to execute the contract and furnish acceptable contract securities and evidence of insurance as required by the bid documents within the time period set forth, the awarding authority may retain all or part of the proposal guarantee and may award the contract to the second-lowest responsible, responsive bidder. Under such circumstances, the owner will be entitled to consider all rights arising out of its acceptance of your proposal as abandoned.

Tuscaloosa County Park & Recreation Authority

PARA's Representative

ACCEPTANCE OF NOTICE

I, on behalf of the above-named contractor, do hereby accept receipt of the above notice of conditional bid award and acknowledge the contents thereof on this the _____ day of _____ 2026.

CONTRACTOR:

By its: _____

STATE OF ALABAMA)
TUSCALOOSA COUNTY)

NOTICE TO PROCEED WITH PUBLIC WORKS PROJECT

PARA

Project Name: _____

Project No.: _____

Date: _____

TO: _____

Pursuant to Ala. Code §39-2-10 (1975), you are hereby notified to immediately commence work in full accordance with the terms and conditions of the Contract Documents in the above-referenced Project, dated _____, 2026, on or before _____, 2026, and you are to complete the work within the time specified therein.

Tuscaloosa County Park & Recreation Authority
P.O. Box 2496
Tuscaloosa, Alabama 35403

PARA's Representative

ACCEPTANCE OF NOTICE

I, on behalf of the above-named contractor, do hereby accept receipt of the above notice to proceed with the referenced Project and acknowledge the contents of the same on this the _____ day of _____, 20____.

CONTRACTOR:

By Its: _____

CONTRACT CHANGE ORDER NO.

DATE: _____ **PROJECT:** _____

TO: _____
(Contractor)

TERMS: You are hereby authorized, subject to the provisions of your Contract for this Project, to make the following changes thereto in accordance with the attached Change Order Request and supporting documents and to **FURNISH** the necessary labor, materials, and equipment to:

TOTAL ADDITION OR REDUCTION TO CONTRACT PRICE:

(Note: Numbers in parentheses are deductions.)

ORIGINAL CONTRACT PRICE	\$	_____
LESS CONTINGENCY/ALLOWANCE	\$	_____
NET ORIGINAL CONTRACT PRICE	\$	_____
Net total of previous Change Orders	\$	_____
The previous revised Contract Price	\$	_____
This Change Order No. _____ ☐ Add ☐ Deduct	\$	_____
Revised Contract Price this date	\$	_____

Extension of time resulting from this Change Order _____ (Indicate number of calendar days).

The amount of this Change Order will be the responsibility of _____

This Contract Modification constitutes full and mutual accord and satisfaction for all time and all costs related to this change. By acceptance of this Contract Modification, the Contractor hereby agrees that the modification constitutes an equitable adjustment to the Contract and further agrees to waive all rights to file any further claims or changes arising out of or resulting from this change or the accumulation of executed Contract Modifications on this Contract.

CONSENT OF SURETY

(Company)

By: _____

RECOMMENDED

By: _____
(Project Manager)

CONTRACTING PARTIES

(Contractor)

By: _____
(Authorized Representative)

PARA

By: _____
(Chief Executive Officer)

PARA
OFFICE OF PARA ATTORNEY

**CHANGE
ORDER
REQUEST**

OWNER: PARA

PROJECT MANAGER: _____

CONTRACTOR: _____

PROJECT: _____

CHANGE ORDER REQUEST NO. _____ DATE: _____

1. DESCRIPTION OF CHANGE:

2. CHANGE ORDER COSTS: _____

Proposal Attached _____ Cost Estimated/Proposal Required

<i>Item</i>	<i>Quantity</i>	<i>Material Unit Price</i>	<i>Labor (Hours)</i>	<i>Labor Unit Price</i>	<i>Sub-Total Cost</i>
a.					
b.					
c.					
d.					
e.					
f.*					
TOTAL:					

*If more than six items, provide attachments.

3. INSTITUTED BY:

4. JUSTIFICATION OF NEED:

5. JUSTIFICATION OF CHANGE ORDER VERSUS COMPETITIVE BIDDING:

6. COSTS REVIEW:

7. THIS CHANGE ORDER IS SUBMITTED FOR REVIEW AND APPROVAL AND IS CLASSIFIED AS THE FOLLOWING TYPE:

- ☐ Minor change of a total monetary value less than required for competitive bidding.
 - ☐ Changes for matters relatively minor and incidental to the original contract necessitated by unforeseeable circumstances arising during work.
 - ☐ Emergencies arise during work.
 - ☐ Change or alternates are provided for in the original bidding where there is no difference in the price of the Change Order from the original best bid on the Alternate.
 - ☐ Change of relatively minor terms not contemplated when the plans and specifications were prepared and the Project was bid, and which are in the public interest and do not exceed 10% of the Contract Price.
-

8. EXTENSION OF TIME REQUESTED: Calendar Days:

RECOMMENDED:

BY: _____
Project Manager

BY: _____
PARA Representative

APPROVED:

BY: _____
Contractor

BY: _____
Owner's Legal Advisor

BY: _____
Owner's Authorized Representative

STATE OF ALABAMA)
COUNTY OF TUSCALOOSA)

**LEGAL NOTICE
NOTICE OF COMPLETION OF PUBLIC WORKS PROJECT
(Over \$100,000)**

Pursuant to Ala. Code §39-1-1 (1975), notice is hereby given that
_____ has completed its contract with PARA,
for the _____.

This notice will be published for a period of four (4) successive weeks beginning: _____

A final settlement will not be made under the contract until thirty (30) days after the expiration of the notice period. Any person or firm having claims on said Project for materials or labor should contact the above contractor at:

(Address of Contractor)

AFFIDAVIT FOR BUSINESS ENTITY/EMPLOYER /CONTRACTOR

(To be completed as a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees)

State of _____

County of _____

Before me, a notary public appeared _____ (print name) who, being duly sworn, says as follows:

As a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees, I hereby attest that in my capacity as _____ (state position) for _____ (state business entity/employer/contractor name) that said business entity/employer/contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien.

I further attest that said business entity/employer/contractor is enrolled in the E-Verify program.

(ATTACH DOCUMENTATION ESTABLISHING THAT BUSINESS ENTITY/EMPLOYER/CONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM)

Signature of Affiant

Sworn to and subscribed before me this _____ day of _____, 2026.

I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

Signature and Seal of Notary Public

AFFIDAVIT FOR SUBCONTRACTOR

(To be completed as a condition for performing work on a project paid for by contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity)

State of _____

County of _____

Before me, a notary public, personally appeared _____ (print name)
who, being duly sworn, says as follows:

As a condition for being a subcontractor on a project paid for by contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity, I hereby attest that in my capacity as _____ (state position) for _____ (state subcontractor name), said subcontractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien.

I further attest that said subcontractor is enrolled in the E-Verify program prior to performing any work on the project. (ATTACH DOCUMENTATION ESTABLISHING THAT THE SUBCONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM)

Signature of Affiant

Sworn and subscribed before me this _____ day of _____, 2_____.

I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

Signature and Seal of Notary Public

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SECTION 26 05 01 - MINOR ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Electrical demolition.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as shown on Drawings.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition drawings are based on casual field observation and existing record documents.
- D. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

- A. Disconnect electrical systems in walls, floors, and ceilings to be removed.
- B. Coordinate utility service outages with utility company.
- C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
- D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Remove, relocate, and extend existing installations to accommodate new construction.
- B. Remove abandoned wiring to source of supply.
- C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- D. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets that are not removed.
- E. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
- F. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.
- G. Repair adjacent construction and finishes damaged during demolition and extension work.
- H. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.
- I. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

3.4 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment that remain or that are to be reused.

- B. Luminaires: Remove existing luminaires for cleaning. Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps, ballasts and broken electrical parts.

END OF SECTION 260501 26 05 01

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER

CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Single conductor building wire.
- B. Nonmetallic-sheathed cable.
- C. Underground feeder and branch-circuit cable.
- D. Metal-clad cable.
- E. Wiring connectors.
- F. Wire pulling lubricant.
- G. Cable ties.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
 - 3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.3 SUBMITTALS

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

1.4 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 CONDUCTOR AND CABLE APPLICATIONS

- A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
- B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
- C. Nonmetallic-sheathed cable is permitted only as follows:
 - 1. Where not otherwise restricted, may be used:
 - a. For branch circuit wiring in dry locations within one- and two-family dwellings and their attached or detached garages, and their storage buildings.
 - b. For branch circuit wiring in dry locations within multifamily dwellings permitted to be of Types III, IV, and V construction.

2. In addition to other applicable restrictions, may not be used:
 - a. Where exposed to view.
 - b. Where exposed to damage.
 - c. For damp, wet, or corrosive locations.
- D. Underground feeder and branch-circuit cable is not permitted.
- E. Metal-clad cable is permitted only as follows:
 1. Where not otherwise restricted, may be used:
 - a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.

Maximum Length: 6 feet.

2.2 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose indicated.
- C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- D. Comply with NEMA WC 70.
- E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.
- G. Conductors for Grounding and Bonding: Also comply with Section 26 05 26.
- H. Conductor Material:
 1. Provide copper conductors except where aluminum conductors are specifically indicated. Substitution of aluminum conductors for copper is not permitted. Conductor sizes indicated are based on copper unless specifically indicated as aluminum. Conductors designated with the abbreviation "AL" indicate aluminum.
 2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B 787M unless otherwise indicated.
 3. Tinned Copper Conductors: Comply with ASTM B33.
 4. Aluminum Conductors (only where specifically indicated or permitted for substitution): AA-8000 series aluminum alloy conductors recognized by ASTM B800 and compact stranded in accordance with ASTM B801 unless otherwise indicated.
- I. Minimum Conductor Size:
 1. Branch Circuits: 12 AWG.
- J. Conductor Color Coding:
 1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
 2. Color Coding Method: Integrally colored insulation.
 - a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
 3. Color Code:
 - a. 480Y/277 V, 3 Phase, 4 Wire System:

Phase A: Brown.

Phase B: Orange.

Phase C: Yellow.

Neutral/Grounded Phase A: Gray with brown stripe.

Neutral/Grounded Phase B: Gray with orange stripe.

Neutral/Grounded Phase C: Gray with yellow stripe.

b. 208Y/120 V, 3 Phase, 4 Wire System:

Phase A: Black.

Phase B: Red.

Phase C: Blue.

Neutral/Grounded Phase A: White with black stripe.

Neutral/Grounded Phase B: White with red stripe.

Neutral/Grounded Phase C: White with blue stripe.

c. 240/120 V High-Leg Delta, 3 Phase, 4 Wire System:

Phase A: Black.

Phase B (High-Leg): Orange.

Phase C: Blue.

Neutral/Grounded Phase A: White with black stripe.

Neutral/Grounded Phase C: White with blue stripe.

d. 240/120 V, 1 Phase, 3 Wire System:

Phase A: Black.

Phase B: Red.

Neutral/Grounded Phase A: White with black stripe.

Neutral/Grounded Phase B: White with red stripe.

e. Equipment Ground, All Systems: Green.

f. Isolated Ground, All Systems: Green with yellow stripe.

g. Travelers for 3-Way and 4-Way Switching: Pink.

2.3 SINGLE CONDUCTOR BUILDING WIRE

A. Description: Single conductor insulated wire.

B. Conductor Stranding:

1. Feeders and Branch Circuits:

a. Size 10 AWG and Smaller: Solid.

b. Size 8 AWG and Larger: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation:

1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.

- a. Size 4 AWG and Larger: Type XHHW-2.
 - b. Installed Underground: Type XHHW-2.
 - c. Fixture Wiring Within Luminaires: Type TFFN/TFN for luminaires with labeled maximum temperature of 90 degrees C; Approved suitable type for luminaires with labeled maximum temperature greater than 90 degrees C.
2. Aluminum Building Wire (only where specifically indicated or permitted for substitution): Type XHHW-2.

2.4 NONMETALLIC-SHEATHED CABLE

- A. Description: NFPA 70, Type NM multiple-conductor cable listed and labeled as complying with UL 719, Type NM-B.
- B. Conductor Stranding:
 - 1. Size 10 AWG and Smaller: Solid.
 - 2. Size 8 AWG and Larger: Stranded.
- C. Insulation Voltage Rating: 600 V.

2.5 METAL-CLAD CABLE

- A. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.
- B. Conductor Stranding:
 - 1. Size 10 AWG and Smaller: Solid.
 - 2. Size 8 AWG and Larger: Stranded.
- C. Insulation Voltage Rating: 600 V.
- D. Insulation: Type THHN, THHN/THWN, or THHN/THWN-2.
- E. Provide dedicated neutral conductor for each phase conductor where indicated or required.
- F. Grounding: Full-size integral equipment grounding conductor.
- G. Armor: Steel, interlocked tape.

2.6 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Connectors for Grounding and Bonding: Comply with Section 26 05 26.
- C. Wiring Connectors for Splices and Taps:
 - 1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
 - 2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or compression connectors.
- D. Wiring Connectors for Terminations:
 - 1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
 - 2. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
 - 3. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
 - 4. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.
 - 5. Conductors for Control Circuits: Use crimped terminals for all connections.
- E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

- F. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.
- G. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
- H. Mechanical Connectors: Provide bolted type or set-screw type.
- I. Compression Connectors: Provide circumferential type or hex type crimp configuration.
- J. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that work likely to damage wire and cable has been completed.
- C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- D. Verify that field measurements are as shown on the drawings.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.2 PREPARATION

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.3 INSTALLATION

- A. Circuiting Requirements:
 - 1. Unless dimensioned, circuit routing indicated is diagrammatic.
 - 2. When circuit destination is indicated and routing is not shown, determine exact routing required.
 - 3. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
 - 4. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
 - 5. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.
- B. Install products in accordance with manufacturer's instructions.
- C. Install conductors and cable in a neat and workmanlike manner in accordance with NECA 1.
- D. Install aluminum conductors in accordance with NECA 104.
- E. Install nonmetallic-sheathed cable (Type NM-B) in accordance with NECA 121.
- F. Install metal-clad cable (Type MC) in accordance with NECA 120.
- G. Installation in Raceway:
 - 1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
 - 2. Pull all conductors and cables together into raceway at same time.
 - 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
 - 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- H. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
- I. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
- J. Terminate cables using suitable fittings.

1. Metal-Clad Cable (Type MC):
 - a. Use listed fittings.
 - b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.
- K. Install conductors with a minimum of 12 inches of slack at each outlet.
- L. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- M. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
- N. Make wiring connections using specified wiring connectors.
 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
 3. Do not remove conductor strands to facilitate insertion into connector.
 4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminants. Do not use wire brush on plated connector surfaces.
 5. Connections for Aluminum Conductors: Fill connectors with oxide inhibiting compound where not pre-filled by manufacturer.
 6. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
 7. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- O. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
- P. Insulate ends of spare conductors using vinyl insulating electrical tape.
- Q. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.
- R. Install firestopping to preserve fire resistance rating of partitions and other elements. .
- S. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Grounding and bonding requirements.
- B. Conductors for grounding and bonding.
- C. Connectors for grounding and bonding.
- D. Ground bars.
- E. Ground rod electrodes.

1.2 RELATED REQUIREMENTS

- A. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

1.3 REFERENCE STANDARDS

- A. IEEE 81 - IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System; 2012.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- C. NEMA GR 1 - Grounding Rod Electrodes and Grounding Rod Electrode Couplings; 2007.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.

1.4 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

PART 2 - PRODUCTS

2.1 GROUNDING AND BONDING REQUIREMENTS

- A. Do not use products for applications other than as permitted by NFPA 70 and product listing.
- B. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
- C. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- D. Grounding System Resistance:
 - 1. Achieve specified grounding system resistance under normally dry conditions unless otherwise approved by Architect. Precipitation within the previous 48 hours does not constitute normally dry conditions.
 - 2. Grounding Electrode System: Not greater than 5 ohms to ground, when tested according to IEEE 81 using "fall-of-potential" method.
- E. Grounding Electrode System:
 - 1. Provide connection to required and supplemental grounding electrodes indicated to form grounding electrode system.
 - a. Provide continuous grounding electrode conductors without splice or joint.
 - b. Install grounding electrode conductors in raceway where exposed to physical damage. Bond grounding electrode conductor to metallic raceways at each end with bonding jumper.

2. Metal Underground Water Pipe(s):
 - a. Provide connection to underground metal domestic and fire protection (where present) water service pipe(s) that are in direct contact with earth for at least 10 feet at an accessible location not more than 5 feet from the point of entrance to the building.
 - b. Provide bonding jumper(s) around insulating joints/pipes as required to make pipe electrically continuous.
 - c. Provide bonding jumper around water meter of sufficient length to permit removal of meter without disconnecting jumper.
3. Metal Building or Structure Frame:
 - a. Provide connection to metal building or structure frame effectively grounded in accordance with NFPA 70 at nearest accessible location.
4. Concrete-Encased Electrode:
 - a. Provide connection to concrete-encased electrode consisting of not less than 20 feet of either steel reinforcing bars or bare copper conductor not smaller than 4 AWG embedded within concrete foundation or footing that is in direct contact with earth in accordance with NFPA 70.
5. Ground Rod Electrode(s):
 - a. Provide three electrodes in an equilateral triangle configuration unless otherwise indicated or required.
 - b. Space electrodes not less than 10 feet from each other and any other ground electrode.
- F. Service-Supplied System Grounding:
 1. For each service disconnect, provide grounding electrode conductor to connect neutral (grounded) service conductor to grounding electrode system. Unless otherwise indicated, make connection at neutral (grounded) bus in service disconnect enclosure.
 2. For each service disconnect, provide main bonding jumper to connect neutral (grounded) bus to equipment ground bus where not factory-installed. Do not make any other connections between neutral (grounded) conductors and ground on load side of service disconnect.
- G. Grounding for Separate Building or Structure Supplied by Feeder(s) or Branch Circuits:
 1. Provide grounding electrode system for each separate building or structure.
 2. Provide equipment grounding conductor routed with supply conductors.
 3. For each disconnecting means, provide grounding electrode conductor to connect equipment ground bus to grounding electrode system.
 4. Do not make any connections and remove any factory-installed jumpers between neutral (grounded) conductors and ground.
- H. Separately Derived System Grounding:
 1. Separately derived systems include, but are not limited to:
 - a. Transformers (except autotransformers such as buck-boost transformers).
 2. Provide grounding electrode conductor to connect derived system grounded conductor to nearest effectively grounded metal building frame. Unless otherwise indicated, make connection at neutral (grounded) bus in source enclosure.
 3. Provide bonding jumper to connect derived system grounded conductor to nearest metal building frame and nearest metal water piping in the area served by the derived system, where not already used as a grounding electrode for the derived system. Make connection at same location as grounding electrode conductor connection.
 4. Provide system bonding jumper to connect system grounded conductor to equipment ground bus. Make connection at same location as grounding electrode conductor connection. Do not make

any other connections between neutral (grounded) conductors and ground on load side of separately derived system disconnect.

5. Where the source and first disconnecting means are in separate enclosures, provide supply-side bonding jumper between source and first disconnecting means.
- I. Bonding and Equipment Grounding:
 1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.
 2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
 3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
 4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
 5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
 6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.

2.2 GROUNDING AND BONDING COMPONENTS

- A. General Requirements:
 1. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated.
 2. Provide products listed and labeled as complying with UL 467 where applicable.
- B. Conductors for Grounding and Bonding, in addition to requirements of Section 26 05 19:
 1. Use insulated copper conductors unless otherwise indicated.
 - a. Exceptions:

Use bare copper conductors where installed underground in direct contact with earth.

Use bare copper conductors where directly encased in concrete (not in raceway).
- C. Connectors for Grounding and Bonding:
 1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
 2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
 3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.
 - a. Exceptions:

Use exothermic welded connections for connections to metal building frame.
- D. Ground Bars:
 1. Description: Copper rectangular ground bars with mounting brackets and insulators.
 2. Size: As indicated.
 3. Holes for Connections: As indicated or as required for connections to be made.

- E. Ground Rod Electrodes:
 - 1. Comply with NEMA GR 1.
 - 2. Material: Copper-bonded (copper-clad) steel.
 - 3. Size: 3/4 inch diameter by 10 feet length, unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install grounding and bonding system components in a neat and workmanlike manner in accordance with NECA 1.
- C. Ground Rod Electrodes: Unless otherwise indicated, install ground rod electrodes vertically. Where encountered rock prohibits vertical installation, install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70 or install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70.
- D. Make grounding and bonding connections using specified connectors.
 - 1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
 - 2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
 - 3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
 - 4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
 - 5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- E. Identify grounding and bonding system components in accordance with Section 26 05 53.

END OF SECTION 26 05 26

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Support and attachment components for equipment, conduit, cable, boxes, and other electrical work.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
 - 2. Coordinate the work with other trades to provide additional framing and materials required for installation.
 - 3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
 - 4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
 - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 03 30 00.

1.3 SUBMITTALS

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for metal channel (strut) framing systems, non-penetrating rooftop supports, and post-installed concrete and masonry anchors.

1.4 QUALITY ASSURANCE

- A. Comply with NFPA 70.
- B. Comply with applicable building code.

PART 2 - PRODUCTS

2.1 SUPPORT AND ATTACHMENT COMPONENTS

- A. General Requirements:
 - 1. Comply with the following. Where requirements differ, comply with most stringent.
 - a. NFPA 70.
 - b. Requirements of authorities having jurisdiction.
 - 2. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
 - 3. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated, where applicable.
 - 4. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported with a

- minimum safety factor of 2. Include consideration for vibration, equipment operation, and shock loads where applicable.
5. Do not use products for applications other than as permitted by NFPA 70 and product listing.
 6. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
 - a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
 - b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.
 - B. Conduit and Cable Supports: Straps, clamps, etc. suitable for the conduit or cable to be supported.
 1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
 2. Conduit Clamps: Bolted type unless otherwise indicated.
 - C. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported. External brackets to be equal to Steel City #SSF-SH2346, #52151-CM/52171 series or SBO series. Cady 'H' style brackets are not acceptable.
 - D. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
 1. Comply with MFMA-4.
 2. Channel Material:
 - a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
 - b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel.
 3. Minimum Channel Thickness: 12 gauge.
 - E. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
 - F. Anchors and Fasteners:
 1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
 2. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
 3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
 4. Hollow Masonry: Use toggle bolts.
 5. Hollow Stud Walls: Use toggle bolts.
 6. Steel: Use beam clamps, machine bolts, or welded threaded studs.
 7. Sheet Metal: Use sheet metal screws.
 8. Wood: Use wood screws.
 9. Preset Concrete Inserts: Continuous metal channel (strut) and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
 - a. Comply with MFMA-4.
 - b. Channel Material: Use galvanized steel.
 - c. Manufacturer: Same as manufacturer of metal channel (strut) framing system.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install support and attachment components in a neat and workmanlike manner in accordance with NECA 1.
- C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

- D. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
- E. Unless specifically indicated or approved by Architect, do not provide support from roof deck.
- F. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.
- G. Equipment Support and Attachment:
 - 1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
 - 2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
 - 3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
 - 4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
- H. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.
- I. Secure fasteners according to manufacturer's recommended torque settings.
- J. Remove temporary supports.

END OF SECTION 26 05 29

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SECTION 26 05 34 - CONDUIT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
- B. Intermediate metal conduit (IMC).
- C. PVC-coated galvanized steel rigid metal conduit (RMC).
- D. Flexible metal conduit (FMC).
- E. Liquidtight flexible metal conduit (LFMC).
- F. Electrical metallic tubing (EMT).
- G. Rigid polyvinyl chloride (PVC) conduit.
- H. Conduit fittings.
- I. Accessories.

1.2 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2005.
- B. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT); 2005.
- C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit (EIMC); 2005.
- D. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- E. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); 2013.
- F. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC); 2003.
- G. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2012.
- H. NEMA RN 1 - Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit; 2005.
- I. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit; 2013.
- J. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing; 2015.
- K. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- L. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.
- M. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
- N. UL 360 - Liquid-Tight Flexible Steel Conduit; Current Edition, Including All Revisions.
- O. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
- P. UL 651 - Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings; Current Edition, Including All Revisions.
- Q. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.
- R. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
 - 3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.

4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.

1.5 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
- C. Underground:
1. Under Slab on Grade: Use rigid PVC conduit. Transition to galvanized steel rigid metal elbow and stub-up where emerging from under slab. Paint metal elbow and stub-up with two(2) coats asphaltic paint or wrap with corrosion protection tape.
 2. Exterior, Direct-Buried: Use rigid PVC conduit.
 3. Exterior, Embedded Within Concrete: Use rigid PVC conduit.
- D. Embedded Within Concrete:
1. Within Slab on Grade: Not permitted.
 2. Within Slab Above Ground (within structural slabs only where approved by Structural Engineer): Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), PVC-coated galvanized steel rigid metal conduit, rigid PVC conduit, or reinforced thermosetting resin conduit (RTRC).
 3. Within Concrete Walls Above Ground: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), PVC-coated galvanized steel rigid metal conduit, rigid PVC conduit, or reinforced thermosetting resin conduit (RTRC).
 4. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit where emerging from concrete.
- E. Concealed Within Masonry Walls: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- F. Concealed Within Hollow Stud Walls: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- G. Concealed Above Accessible Ceilings: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- H. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).

- I. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- J. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).
- K. Exposed, Exterior: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or PVC-coated galvanized steel rigid metal conduit.
- L. Concealed, Exterior, Not Embedded in Concrete or in Contact With Earth: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).
- M. Connections to Luminaires Above Accessible Ceilings: Use flexible metal conduit.
 - 1. Maximum Length: 6 feet.
- N. Connections to Vibrating Equipment:
 - 1. Dry Locations: Use flexible metal conduit.
 - 2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
 - 3. Maximum Length: 6 feet unless otherwise indicated.
 - 4. Vibrating equipment includes, but is not limited to:
 - a. Transformers.
 - b. Motors.
 - c. HVAC equipment.
- O. Fished in Existing Walls, Where Necessary: Use flexible metal conduit.

2.2 CONDUIT REQUIREMENTS

- A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.
- B. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
- C. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) as suitable for the purpose indicated.
- D. Minimum Conduit Size, Unless Otherwise Indicated:
 - 1. Branch Circuits: 1/2 inch (16 mm) trade size. (3/4" for University of Alabama projects)
 - 2. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
 - 3. Flexible Connections to Luminaires: 3/8 inch (12 mm) trade size.
 - 4. Underground, Interior: 3/4 inch (21 mm) trade size.
 - 5. Underground, Exterior: 1 inch (27 mm) trade size.
- E. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.3 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
- B. Fittings:
 - 1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - a. Do not use die cast zinc fittings.
 - 3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.4 INTERMEDIATE METAL CONDUIT (IMC)

- A. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.
- B. Fittings:
 - 1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - a. Do not use die cast zinc fittings.
 - 3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.5 PVC-COATED GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit with external polyvinyl chloride (PVC) coating complying with NEMA RN 1 and listed and labeled as complying with UL 6.
- B. Exterior Coating: Polyvinyl chloride (PVC), nominal thickness of 40 mil.
- C. PVC-Coated Fittings:
 - 1. Manufacturer: Same as manufacturer of PVC-coated conduit to be installed.
 - 2. Non-Hazardous Locations: Use fittings listed and labeled as complying with UL 514B.
 - 3. Material: Use steel or malleable iron.
 - 4. Exterior Coating: Polyvinyl chloride (PVC), minimum thickness of 40 mil.
- D. PVC-Coated Supports: Furnish with exterior coating of polyvinyl chloride (PVC), minimum thickness of 15 mil.

2.6 FLEXIBLE METAL CONDUIT (FMC)

- A. Description: NFPA 70, Type FMC standard wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems to be used.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - a. Do not use die cast zinc fittings.

2.7 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.

2.8 ELECTRICAL METALLIC TUBING (EMT)

- A. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - a. Do not use die cast zinc fittings.
 - 3. Connectors and Couplings: Use compression (gland) or set-screw type.

- a. Do not use indenter type connectors and couplings.

2.9 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

- A. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.
- B. Fittings:
 - 1. Manufacturer: Same as manufacturer of conduit to be connected.
 - 2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

2.10 ACCESSORIES

- A. Corrosion Protection Tape: PVC-based, minimum thickness of 20 mil.
- B. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the conduit to be installed.
- C. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.
- D. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force.
- E. Modular Seals for Conduit Penetrations: Rated for minimum of 40 psig; Suitable for the conduits to be installed.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as shown on drawings.
- B. Verify that mounting surfaces are ready to receive conduits.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install conduit in a neat and workmanlike manner in accordance with NECA 1.
- C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
- D. Install intermediate metal conduit (IMC) in accordance with NECA 101.
- E. Install PVC-coated galvanized steel rigid metal conduit (RMC) using only tools approved by the manufacturer.
- F. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.
- G. Install electrical nonmetallic tubing (ENT) in accordance with NECA 111.
- H. Install liquidtight flexible nonmetallic conduit (LFNC) in accordance with NECA 111.
- I. Conduit Routing:
 - 1. Unless dimensioned, conduit routing indicated is diagrammatic.
 - 2. When conduit destination is indicated and routing is not shown, determine exact routing required.
 - 3. Conceal all conduits unless specifically indicated to be exposed.
 - 4. Conduits in the following areas may be exposed, unless otherwise indicated:
 - a. Electrical rooms.
 - b. Mechanical equipment rooms.
 - c. Within joists in areas with no ceiling.
 - 5. Unless otherwise approved, do not route conduits exposed:
 - a. Across floors.
 - b. Across roofs.

- c. Across top of parapet walls.
 - d. Across building exterior surfaces.
- 6. Conduits installed underground or embedded in concrete may be routed in the shortest possible manner unless otherwise indicated. Route all other conduits parallel or perpendicular to building structure and surfaces, following surface contours where practical.
- 7. Arrange conduit to maintain adequate headroom, clearances, and access.
- 8. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
- J. Conduit Support:
 - 1. Secure and support conduits in accordance with NFPA 70 and Section 26 05 29 using suitable supports and methods approved by the authority having jurisdiction.
 - 2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 - 3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
 - 4. Use conduit strap to support single surface-mounted conduit.
 - a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
 - 5. Use metal channel (strut) with accessory conduit clamps to support multiple parallel surface-mounted conduits.
 - 6. Use conduit clamp to support single conduit from beam clamp or threaded rod.
 - 7. Use trapeze hangers assembled from threaded rods and metal channel (strut) with accessory conduit clamps to support multiple parallel suspended conduits.
- K. Connections and Terminations:
 - 1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
 - 2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
 - 3. Use suitable adapters where required to transition from one type of conduit to another.
 - 4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
 - 5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
 - 6. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
 - 7. Secure joints and connections to provide maximum mechanical strength and electrical continuity.
- L. Penetrations:
 - 1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
 - 2. Make penetrations perpendicular to surfaces unless otherwise indicated.
 - 3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
 - 4. Conceal bends for conduit risers emerging above ground.
 - 5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
 - 6. Provide suitable modular seal where conduits penetrate exterior wall below grade.

7. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
 8. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
 9. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.
- M. Underground Installation:
1. Minimum Cover, Unless Otherwise Indicated or Required:
 - a. Underground, Exterior: 24 inches. 36" for University of Alabama projects.
 2. Provide underground warning tape in accordance with Section 26 05 53 along entire conduit length for service entrance where not concrete-encased.
- N. Embedment Within Structural Concrete Slabs (only where approved by Structural Engineer):
1. Secure conduits to prevent floating or movement during pouring of concrete.
- O. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment.
- P. Conduit Sealing:
1. Use foam conduit sealant to prevent entry of moisture and gases. This includes, but is not limited to:
 - a. Where conduits enter building from outside.
 - b. Where service conduits enter building from underground distribution system.
 - c. Where conduits enter building from underground.
 - d. Where conduits may transport moisture to contact live parts.
 2. Where conduits cross barriers between areas of potential substantial temperature differential, use foam conduit sealant at accessible point near penetration to prevent condensation. This includes, but is not limited to:
 - a. Where conduits pass from outdoors into conditioned interior spaces.
 - b. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
- Q. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
1. Where conduits penetrate coolers or freezers.
- R. Provide pull string in all empty conduits and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches at each end.
- S. Provide grounding and bonding in accordance with Section 26 05 26.
- T. Identify conduits in accordance with Section 26 05 53.

3.3 FIELD QUALITY CONTROL

- A. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- B. Where coating of PVC-coated galvanized steel rigid metal conduit (RMC) contains cuts or abrasions, repair in accordance with manufacturer's instructions.
- C. Correct deficiencies and replace damaged or defective conduits.

3.4 CLEANING

- A. Clean interior of conduits to remove moisture and foreign matter.

3.5 PROTECTION

- A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION 26 05 34

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Electrical identification requirements.
- B. Identification nameplates and labels.
- C. Wire and cable markers.
- D. Voltage markers.
- E. Underground warning tape.
- F. Warning signs and labels.

1.2 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
- B. Sequencing:
 - 1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
 - 2. Do not install identification products until final surface finishes and painting are complete.

PART 2 - PRODUCTS

2.1 IDENTIFICATION REQUIREMENTS

- A. Identification for Equipment:
 - 1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
 - a. Switchboards:
 - Identify voltage and phase.
 - Use identification nameplate to identify main overcurrent protective device.
 - Use identification nameplate to identify load(s) served for each branch device.
 - Do not identify spares and spaces.
 - b. Panelboards:
 - Identify voltage and phase.
 - Identify power source and circuit number. Include location when not within sight of equipment.
 - Identify main overcurrent protective device. Use identification label for panelboards with a door. For power distribution panelboards without a door, use identification nameplate.
 - Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces using pencil.

For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.

c. Transformers:

Identify power source and circuit number. Include location when not within sight of equipment.

d. Enclosed switches, circuit breakers, and motor controllers:

Identify voltage and phase.

Identify power source and circuit number. Include location when not within sight of equipment.

Identify load(s) served. Include location when not within sight of equipment.

e. Enclosed Contactors:

Identify load(s) and associated circuits controlled. Include location.

f. Transfer Switches:

Identify voltage and phase.

2. Service Equipment:

a. Use identification nameplate to identify each service disconnecting means.

b. Use identification nameplate at each piece of service equipment to identify the available fault current and the date calculations were performed.

3. Emergency System Equipment:

a. Use identification nameplate or voltage marker to identify emergency system equipment in accordance with NFPA 70.

b. Use identification nameplate at each piece of service equipment to identify type and location of on-site emergency power sources.

4. Use identification nameplate to identify switchboards and panelboards utilizing a high leg delta system in accordance with NFPA 70.

5. Use identification label to identify overcurrent protective devices for branch circuits serving fire alarm circuits. Identify with text "FIRE ALARM CIRCUIT".

6. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.

a. Legend: Include orange header that reads "WARNING", followed by the word message "Arc Flash and Shock Hazard; Appropriate PPE Required; Do not operate controls or open covers without appropriate personal protection equipment; Failure to comply may result in injury or death; Refer to NFPA 70E for minimum PPE requirements" or approved equivalent.

B. Identification for Conductors and Cables:

1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 05 19.

2. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.

3. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
 - a. At each source and load connection.
 - b. Within boxes when more than one circuit is present.
- C. Identification for Raceways:
 1. Use painted raceways or painted raceways to identify systems other than normal power system for accessible conduits at maximum intervals of 20 feet.
 - a. Color-Coded Bands: Use field-painting or vinyl color coding electrical tape to mark bands 3 inches wide.

Color Code:

Emergency Power System: Yellow .

Fire Alarm System: Red.

Data/Communications System: Blue.
- D. Identification for Boxes:
 1. Use identification labels or handwritten text using indelible marker to identify circuits enclosed.
 - a. For exposed boxes in public areas, use only identification labels.
- E. Identification for Devices:
 1. Use identification label or engraved wallplate to identify serving branch circuit for all receptacles.
- F. Identification for Luminaires:
 1. Use permanent red dot on luminaire frame to identify luminaires connected to emergency power system.

2.2 IDENTIFICATION NAMEPLATES AND LABELS

- A. Identification Nameplates:
 1. Materials:
 - a. Indoor Clean, Dry Locations: Use plastic nameplates.
 - b. Outdoor Locations: Use plastic, stainless steel, or aluminum nameplates suitable for exterior use.
 2. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch; engraved text.
 - a. Exception: Provide minimum thickness of 1/8 inch when any dimension is greater than 4 inches.
 3. Stainless Steel Nameplates: Minimum thickness of 1/32 inch; engraved or laser-etched text.
 4. Aluminum Nameplates: Anodized; minimum thickness of 1/32 inch; engraved or laser-etched text.
 5. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.
- B. Identification Labels:
 1. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
 2. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.
- C. Format for Equipment Identification:
 1. Minimum Size: 1 inch by 2.5 inches.

2. Legend:
 - a. Equipment designation or other approved description.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height:
 - a. System Designation: 1 inch.
 - b. Equipment Designation: 1/2 inch.
5. Color:
 - a. Normal Power System: White text on black background.
 - b. Emergency Power System: White text on red background.
- D. Format for Receptacle Identification:
 1. Minimum Size: 3/8 inch by 1.5 inches.
 2. Legend: Power source and circuit number or other designation indicated.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height: 3/16 inch.
 5. Color: Black text on clear background.

2.3 WIRE AND CABLE MARKERS

- A. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, or vinyl split sleeve type markers suitable for the conductor or cable to be identified.
- B. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.
- C. Legend: Power source and circuit number or other designation indicated.
- D. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
- E. Minimum Text Height: 1/8 inch.
- F. Color: Black text on white background unless otherwise indicated.

2.4 VOLTAGE MARKERS

- A. Minimum Size:
 1. Markers for Equipment: 1 1/8 by 4 1/2 inches.
 2. Markers for Pull Boxes: 1 1/8 by 4 1/2 inches.
 3. Markers for Junction Boxes: 1/2 by 2 1/4 inches.
- B. Legend:
 1. Markers for Voltage Identification: Highest voltage present.
 2. Markers for System Identification:
 - a. Emergency Power System: Text "EMERGENCY".
- C. Color: Black text on orange background unless otherwise indicated.

2.5 UNDERGROUND WARNING TAPE

- A. Materials: Use non-detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.
- B. Non-detectable Type Tape: 6 inches wide, with minimum thickness of 4 mil.
- C. Legend: Type of service, continuously repeated over full length of tape.
- D. Color:
 1. Tape for Buried Power Lines: Black text on red background.
 2. Tape for Buried Communication, Alarm, and Signal Lines: Black text on orange background.

2.6 WARNING SIGNS AND LABELS

- A. Comply with ANSI Z535.2 or ANSI Z535.4 as applicable.

- B. Warning Signs:
 - 1. Materials:
 - a. Indoor Dry, Clean Locations: Use factory pre-printed rigid plastic or self-adhesive vinyl signs.
 - b. Outdoor Locations: Use factory pre-printed rigid aluminum signs.
 - 2. Rigid Signs: Provide four mounting holes at corners for mechanical fasteners.
 - 3. Minimum Size: 7 by 10 inches unless otherwise indicated.
- C. Warning Labels:
 - 1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
 - 2. Machine-Printed Labels: Use thermal transfer process printing machines and accessories recommended by label manufacturer.
 - 3. Minimum Size: 2 by 4 inches unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
 - 1. Surface-Mounted Equipment: Enclosure front.
 - 2. Flush-Mounted Equipment: Inside of equipment door.
 - 3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
 - 4. Elevated Equipment: Legible from the floor or working platform.
 - 5. Branch Devices: Adjacent to device.
 - 6. Interior Components: Legible from the point of access.
 - 7. Conduits: Legible from the floor.
 - 8. Boxes: Outside face of cover.
 - 9. Conductors and Cables: Legible from the point of access.
 - 10. Devices: Outside face of cover.
- C. Install identification products centered, level, and parallel with lines of item being identified.
- D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws, rivets, or rivets and to interior surfaces using screws or rivets.
- E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.
- F. Install underground warning tape above buried lines with one tape per trench at 3 inches below finished grade.
- G. Secure rigid signs using stainless steel screws.
- H. Mark all handwritten text, where permitted, to be neat and legible.

END OF SECTION 26 05 53

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SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Power distribution panelboards.
- B. Lighting and appliance panelboards.
- C. Load centers.
- D. Overcurrent protective devices for panelboards.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted panelboards where indicated.
 - 4. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
 - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.3 SUBMITTALS

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.
- B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
 - 1. Include dimensioned plan and elevation views of panelboards and adjacent equipment with all required clearances indicated.
 - 2. Clearly indicate whether proposed short circuit current ratings are fully rated or, where acceptable, series rated systems.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Siemens Industry, Inc: www.usa.siemens.com.
- B. Eaton Corporation; Cutler-Hammer Products: www.eaton.com/#sle.
- C. Schneider Electric; Square D Products: www.schneider-electric.us/#sle.
- D. Source Limitations: Furnish panelboards and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.2 ALL PANELBOARDS

- A. Provide products listed and labeled by Underwriters Laboratories Inc. as suitable for the purpose indicated.
- B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:

1. Altitude: Less than 6,600 feet.
2. Ambient Temperature:
 - a. Panelboards Containing Circuit Breakers: Between 23 degrees F and 104 degrees F.
- C. Short Circuit Current Rating:
 1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.
- D. Panelboards Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.
- E. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation.
- F. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.
- G. Bussing: Sized in accordance with UL 67 temperature rise requirements.
 1. Provide fully rated neutral bus unless otherwise indicated, with a suitable lug for each feeder or branch circuit requiring a neutral connection.
 2. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.
- H. Conductor Terminations: Suitable for use with the conductors to be installed.
- I. Enclosures: Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E.
 1. Environment Type per NEMA EN 10250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 1.
 - b. Outdoor Locations: Type 3R.
 2. Boxes: Galvanized steel unless otherwise indicated.
 - a. Provide wiring gutters sized to accommodate the conductors to be installed.
 3. Fronts:
 - a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
 - b. Fronts for Flush-Mounted Enclosures: Overlap boxes on all sides to conceal rough opening.
 - c. Finish for Painted Steel Fronts: Manufacturer's standard grey unless otherwise indicated.
 4. Lockable Doors: All locks keyed alike unless otherwise indicated.
- J. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.
- K. Surge Protective Devices: Where factory-installed, internally mounted surge protective devices are provided in accordance with Section 26 43 00, list and label panelboards as a complete assembly including surge protective device.
- L. Ground Fault Protection: Where ground-fault protection is indicated, provide system listed and labeled as complying with UL 1053.
- M. Multi-Section Panelboards: Provide enclosures of the same height, with feed-through lugs or sub-feed lugs and feeders as indicated or as required to interconnect sections.
- N. Load centers are acceptable for use in dwelling units only or where specifically indicated.

2.3 POWER DISTRIBUTION AND LIGHTING / APPLIANCE PANELBOARDS

- A. Description: Panelboards complying with NEMA PB 1, power and feeder distribution type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.
- B. Conductor Terminations:
 1. Main and Neutral Lug Material: Copper, suitable for terminating copper conductors only.
 2. Main and Neutral Lug Type: Compression.

C. Bussing:

1. Phase and Neutral Bus Material: Copper.
2. Ground Bus Material: Copper.

D. Circuit Breakers:

1. Provide bolt-on type.
2. Provide thermal magnetic circuit breakers unless otherwise indicated.

E. Enclosures:

1. Provide surface-mounted or flush-mounted enclosures as indicated.
2. Fronts:
 - a. No door: Provide nameplate adjacent to each overcurrent device.
 - b. With door:

Provide piano hinge trim with screw-retained, hinged cover for access to load terminals and wiring gutters and separate lockable, piano-hinged door for access to overcurrent device handles without exposing live parts.

Provide metal circuit directory holder welded to inside of door with clear plastic cover.

2.4 LOAD CENTERS

- A. Description: Circuit breaker type load centers listed and labeled as complying with UL 67; ratings, configurations, and features as indicated on the drawings.
- B. Bussing:
 1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.
 2. Bus Material: Copper.
- C. Circuit Breakers: Thermal magnetic plug-in type.
- D. Enclosures:
 1. Provide surface-mounted or flush-mounted enclosures as indicated.
 2. Provide individual circuit labels adjacent to circuit breakers.

2.5 OVERCURRENT PROTECTIVE DEVICES

- A. Molded Case Circuit Breakers:
 1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
 2. Interrupting Capacity:
 - a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated, but not less than:
10,000 rms symmetrical amperes at 240 VAC or 208 VAC.
 - b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
 3. Conductor Terminations:
 - a. Provide mechanical lugs unless otherwise indicated.
 - b. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
 4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
 5. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.

6. Provide the following circuit breaker types where indicated:
 - a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.
 - b. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Combination type listed as complying with UL 1699.
7. Provide listed switching duty rated circuit breakers with SWD marking for all branch circuits serving fluorescent lighting.
8. Provide listed high intensity discharge lighting rated circuit breakers with HID marking for all branch circuits serving HID lighting.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive panelboards.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install panelboards securely, in a neat and workmanlike manner in accordance with NECA 1 (general workmanship), NECA 407 (panelboards), NEMA PB 1.1, NECA 1 (general workmanship), NECA 407 (panelboards), NEMA PB 1.1, NECA 1 (general workmanship), NECA 407 (panelboards), and NEMA PB 1.1.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Provide required supports in accordance with Section 26 05 29.
- E. Install panelboards plumb.
- F. Install flush-mounted panelboards so that trims fit completely flush to wall with no gaps and rough opening completely covered.
- G. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches above the floor or working platform.
- H. Mount floor-mounted power distribution panelboards on properly sized 3 inch high concrete pad constructed in accordance with Section 03 30 00.
- I. Provide minimum of four spare 1 inch trade size conduits out of each flush-mounted panelboard stubbed into accessible space above ceiling and below floor.
- J. Provide grounding and bonding in accordance with Section 26 05 26.
 1. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on isolated/insulated ground bus.
- K. Install all field-installed branch devices, components, and accessories.
- L. Set field-adjustable ground fault protection pickup and time delay settings as indicated.
- M. Provide filler plates to cover unused spaces in panelboards.
- N. Provide circuit breaker lock-on devices to prevent unauthorized personnel from de-energizing essential loads where indicated. Also provide for the following:
 1. Emergency and night lighting circuits.
 2. Fire detection and alarm circuits.
 3. Communications equipment circuits.

- 4. Intrusion detection and access control system circuits.
- 5. Video surveillance system circuits.
- O. Identify panelboards in accordance with Section 26 05 53.

3.3 FIELD QUALITY CONTROL

- A. Perform inspection, testing, and adjusting in accordance with Section 01 40 00.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for all main circuit breakers and circuit breakers larger than 400 amperes. Tests listed as optional are not required.
- D. Ground Fault Protection Systems: Test in accordance with manufacturer's instructions as required by NFPA 70.
- E. Test GFCI circuit breakers to verify proper operation.
- F. Test AFCI circuit breakers to verify proper operation.
- G. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.4 ADJUSTING

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.
- B. Adjust alignment of panelboard fronts.

3.5 CLEANING

- A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.
- B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION 26 24 16

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SECTION 26 32 13.16 - GASEOUS-ENGINE-DRIVEN GENERATORS -

REHLKO POWER SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Packaged gaseous-engine-driven-engine generator system and associated components.

1.2 REFERENCE STANDARDS

- A. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus; 2011.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- C. NECA/EGSA 404 - Standard for Installing Generator Sets; 2014.
- D. NEMA MG 00001 - Motors and Generators; 2024.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. NFPA 99 - Health Care Facilities Code; 2015.
- G. NFPA 110 - Standard for Emergency and Standby Power Systems; 2013.
- H. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.
- I. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.
- J. UL 1236 - Battery Chargers for Charging Engine-Starter Batteries; Current Edition, Including All Revisions.
- K. UL 2200 - Stationary Engine Generator Assemblies; Current Edition, Including All Revisions.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate compatibility of generator sets, including the following:
 - a. Transfer switches.
 - 2. Coordinate work to avoid placing ductwork, piping, equipment, or other potential obstructions within spaces dedicated to engine generator system.
 - 3. Coordinate arrangement of equipment with dimensions and clearance requirements of equipment.
 - 4. Coordinate to provide electrical circuits suitable for power requirements of auxiliary equipment and accessories.
 - 5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturer's standard catalog pages and data sheets for each product, including ratings, configurations, dimensions, finishes, weights, service condition requirements, and installed features.
 - 1. Include alternator starting capabilities, engine fuel consumption rates, cooling, combustion air, and exhaust requirements.
- C. Shop Drawings: Include dimensioned plan views and sections indicating locations of system components, required clearances, and field connection locations.

1. Indicate system interconnection schematic diagrams showing factory and field connections.
- D. Certificates:
 1. Manufacturer's factory emissions certification.
- E. Manufacturer reports.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Rehlko Power Systems; www.powersystems.rehlko.com/#sle.
- B. Other Acceptable Manufacturers:
 1. Taylor Power Systems
 2. Generac
- C. Source Limitations: Furnish engine generator sets and associated components and accessories produced by single manufacturer and obtained from single supplier.
 1. Obtain enclosure from engine-driven generator manufacturer.
 2. Designed and Provided by Engine-Driven Generator Manufacturer: Generator controllers, annunciators, battery chargers, and monitoring equipment.

2.2 PACKAGED GASEOUS-ENGINE-DRIVEN GENERATOR SYSTEM

- A. Provide new gaseous-engine-driven generator system consisting of equipment, sensors, conduit, boxes, wiring, piping, supports, accessories, system programming, and other components as required for complete operating system.
- B. Provide products listed, classified, and labeled as suitable for intended purpose.
- C. System Description:
 1. Application: Emergency/standby.
 2. Configuration: Single packaged engine generator set operated independently (not in parallel).
- D. Generator Set General Requirements:
 1. Factory-assembled, with components mounted on base.
 2. List and label engine generator assembly as complying with UL 2200 or CSA.
 3. Power Factor: Unless otherwise indicated, specified power ratings are at 0.8 power factor for three-phase voltages and 1.0 power factor for single-phase voltages.
 4. Provide guards to protect personnel from accidental contact with rotating parts, hot piping, and other potential sources of injury.
 5. Main Overcurrent Protective Device (OCPD):
 - a. Type: Thermal magnetic circuit breaker.
 - b. Trip Rating: Select according to generator set rating.
- E. Finishes: Paint and coating of automotive quality with multilayer epoxy undercoat primer and powder-coat finish.
 1. Indoor and Outdoor Enclosures and Components - Multistage Finishing Process from Manufacturer, Including:
 - a. Precleaning: Enclosure components cleaned with two-stage alkaline cleaning process to remove grease, grit, and grime from parts, then subjected to zirconium-based conversion coating process to prepare metal for electrocoat (e-coat) adhesion.
 - b. Primer: Enclosure parts to receive 100 percent epoxy primer electrocoat (e-coat) with high-edge protection.
 - c. Finish Coating:
 - d. Minimum Enclosure Corrosion Resistance: 1,000-hour salt spray test in accordance with ASTM B117.

- e. Provide powder coat or liquid coat for fading and abrasion resistance.
- F. Service Conditions: Provide engine generator system and associated components suitable for operation under service conditions at installed location, including altitude and temperature range as indicated for basis of design products.
- G. Starting and Load Acceptance Requirements:
 - 1. Cranking Method: Cycle cranking complying with NFPA 110 for 15-second crank period, followed by 15-second rest period, with cranking limiter time-out after three cycles, unless otherwise required.
 - 2. Cranking Limiter Time-Out: If generator set fails to start after specified cranking period, indicate overcrank alarm condition, and lock out generator set from further cranking until manually reset.
 - 3. Start Time: Capable of starting and achieving conditions necessary for load acceptance within 10 seconds NFPA 110 Type 10.
 - 4. Maximum Load Step: Supports 100 percent of rated load in one step.
- H. Exhaust Emissions Requirements:
 - 1. Comply with EPA, state, and local regulations applicable for stationary standby engines at time of commissioning; include factory emissions certification with submittals.
 - 2. Do not make modifications affecting generator set factory emissions certification without approval of manufacturer and engineer. Where such modifications are made, provide field emissions testing as required for certification.

2.3 ENGINE AND ENGINE ACCESSORY EQUIPMENT

- A. Provide engine with horsepower to achieve specified power output at rated speed, accounting for alternator efficiency and parasitic loads.
- B. Standby Load Factor: Minimum in accordance with manufacturer recommendations.
- C. Engine Fuel System - Gaseous, Spark Ignition:
 - 1. Fuel Source: Natural gas.
 - 2. Engine Fuel Connections: Provide manufacturer-approved flexible fuel lines for coupling engine to fuel source.
 - 3. Provide components/features required for operation and compliance with applicable codes, including:
 - a. Carburetor.
 - b. Gas pressure regulators.
 - c. Fuel shutoff control valves.
 - d. Low gas pressure switches.
- D. Engine Starting System:
 - 1. System Type: Electric, with DC solenoid-activated starting motors.
 - 2. Batteries:
 - a. Provide lead-acid type.
 - b. Battery Capacity: Size according to manufacturer's recommendations for achieving starting and load acceptance requirements under worst case ambient temperature; capable of providing cranking through two complete periods of cranking limiter time-outs without recharging.
 - c. Provide battery rack, cables, and connectors suitable for supplied batteries; size battery cables according to manufacturer's recommendations, including cable length.
 - 3. Battery-Charging Alternator: Engine-driven, with integral solid-state voltage regulation.
 - 4. Battery Charger:
 - a. Comply with the following:

CE-certified.

NFPA 110.

- b. Environmental Conditions: Battery charger to withstand the following environmental conditions without mechanical or electrical damage or degradation of performance capability:

Ambient Temperature: Minus 40 to 185 degrees F with full charger output available up to 122 degrees F.

Relative Humidity: 0 to 95 percent.

Altitude: Meets full performance requirements from sea level to 5,000 feet. Chargers installed at higher altitudes automatically derate output power to prevent overheating of internal components but remain operable.

- c. Charger Operation: Provide dual rate battery charger with automatic float and equalize charging modes; minimum rating of 10 A; suitable for maintaining supplied batteries at full charge without manual intervention.

Capable of returning supplied batteries from fully discharged to fully charged condition within 24 hours, as required by NFPA 110 for Level 1 applications while carrying normal loads.

Listed as complying with UL 1236.

Furnished with integral overcurrent protection; current limited to protect charger during engine cranking; reverse polarity protection.

Provide integral DC output ammeter and voltmeter with 5 percent accuracy.

Provide alarm output contacts as necessary for alarm indications.

AC Input: Charger operates from 45 to 65 Hz AC source with voltage ranging from 105 to 264 Vrms.

- d. LCD Digital Display: AC input voltmeter, DC output voltmeter, and ammeter; 1 percent accuracy.

- e. LED Lamp Indicators: Current limit, AC ON, and charger fail.

- f. Charger Fail Alarm Contact, Dry Type: Voltage-free form "C" output.

- g. Filtered output for battery type indicated.

- h. Charger Enclosure: UL 50 and UL 50E, Type 1, IP20, wall-mounted and rated for generator duty with charger enclosure vibration resistance.

E. Engine Speed Control System (Governor):

1. Single-Engine Generator Sets Not Operated in Parallel: Provide electronic isochronous governor for controlling engine speed/alternator frequency.
2. Frequency Regulation, Electronic Isochronous Governors: No change in frequency from no load to full load; plus/minus 0.25 percent at steady state.

F. Engine Lubrication System:

1. System Type: Full pressure, with engine-driven, positive displacement lubrication oil pump, replaceable full-flow oil filters, and dipstick for oil level indication.
 - a. Provide oil cooler where recommended by manufacturer.

2. Closed Crankcase Ventilation System: Prevents crankcase oil vapor from draining or escaping engine.
- G. Engine Cooling System:
 1. System Type: Closed-loop, liquid-cooled, with unit-mounted radiator/fan and engine-driven coolant pump; suitable for providing cooling while operating at full load under typical ambient temperature.
 2. Fan Guard: Provide guard to protect personnel from accidental contact with fan.
- H. Engine Air Intake and Exhaust System:
 1. Air Intake Filtration: Provide engine-mounted, replaceable, dry element filter.
 2. Engine Exhaust Connection: Provide approved flexible connector for coupling engine to exhaust system.
 3. Exhaust Silencer: Provide critical grade or better exhaust silencer with sound attenuation not less than basis of design; select according to manufacturer's recommendations to meet sound performance requirements, where specified.

2.4 ALTERNATOR (GENERATOR)

- A. Alternator: 4-pole, 1,800 rpm, 60 Hz output revolving field, synchronous generator complying with NEMA MG 00001; connected to engine with flexible coupling; voltage output configuration as indicated for basis of design products, with reconnectable alternator leads.
- B. Exciter:
 1. Exciter Type: Brushless; provide permanent magnet generator (PMG) excitation system; self-excited (shunt) systems are not permitted.
 2. PMG Excitation Short-Circuit Current Support: Capable of sustaining 300 percent of rated output current for 10 seconds.
 3. Voltage Regulation with PMG Excitation: Plus/minus 0.5 percent for constant load from no load to full load.
- C. Temperature Rise at Full Load: Comply with UL 2200.
- D. Insulation System: NEMA MG 00001, Class H; suitable for alternator temperature rise.
- E. Enclosure: NEMA MG 00001, drip-proof.
- F. Total Harmonic Distortion: Maximum of 10 percent.
- G. Subtransient Reactance: As indicated for basis of design products.

2.5 GENERATOR SET CONTROL SYSTEM

- A. Provide microprocessor-based control system for automatic control, monitoring, and protection of generator set. Include sensors, wiring, and connections necessary for functions/indications specified.
- B. Control Panel:
 1. Description:
 - a. Digital engine generator controller with integrated graphical touch screen TFT (thin film transistor) display, controls, and microprocessor, capable of local and remote control, monitoring, and programming, with included battery backup.
 - b. Controller Face Ingress Protection: IP 65.
 - c. Operating Temperature: Minus 40 to 158 degrees F.
 - d. Maximum Operating Humidity: 95 percent noncondensing.
 - e. Corrosion Resistant: Tested in accordance with ASTM B117, salt spray test.
 2. Configuration:
 - a. Group operating and safety indications, protective devices, basic system controls, and engine gauges.

- b. Panel Mounting Method: Unit-mounted unless otherwise indicated; vibration isolated.
- c. Panel powered from engine generator battery.
- 3. Generator Set Control Functions:
 - a. Mode Selector:
 - Off/Reset: Prohibits generator from starting and resets shutdowns. In this mode, controller does not respond to remote START and STOP commands.
 - Manual: Allows user to locally start and stop generator operation. In this mode, controller does not respond to remote START and STOP commands.
 - Auto: Allows generator to start and stop based on remote commands. In this mode, generator does not respond to manual START and STOP commands.
 - b. Voltage Adjustment: Adjustable through range of plus/minus 10 percent.
 - c. Audible Alarm: Horn sounds for specific warning and shutdown conditions.
 - d. Alarm Silence/Lamp Test Pushbutton: Silences audible alarm when depressed. Controller indicating lights are simultaneously illuminated while actuated.
 - e. Fault Light - LED Indicating Abnormal Conditions:
 - Yellow: Active warning condition or mode selector switch not in automatic.
 - Red: Active shutdown condition.
 - f. Real-time clock and calendar for time-stamping events.
 - g. Load Management:
 - Programmable outputs to command connect and disconnect of loads based on system state:
 - Loads connected based on available capacity.
 - Loads disconnected at system startup.
 - Loads disconnected based on maximum kW setting or under-frequency setting.
 - Support up to 16 load steps.
 - h. Programmable Engine Control Features:
 - Engine start delay.
 - Engine cooldown delay.
 - Warm-up delay based on time or engine temperature.
 - Idle speed.
 - Cyclic cranking with adjustable ON time, OFF time, and number of cycles.
 - i. Event Logging:
 - Maintain record of minimum of 1,000 events with date and time locally for warning and shutdown faults.

Event log easily available for download onto USB storage device or PC.

Event Snapshot: Capture 15 seconds of critical data around time of fault or warning. Data viewable on controller and downloadable.

- j. Data Logging: Capable of time-based recording of customized parameters.

Parameters selectable from monitored parameters.

Sample period configurable from one second to one day.

Collected data stored on USB storage device plugged into control panel.

- k. Minimum of three user access levels.

- l. Password protection to prevent unauthorized modification to system parameters.

- m. Customizable Interface:

Overview Screen: Dedicated screen allowing user to display up to 16 parameters for immediate access.

Favorites: User-customizable menu set up for enhanced usability.

4. Generator Set Status Indications:

- a. Voltage (VAC): Line-to-line, line-to-neutral for each phase.
- b. Current (A): For each phase.
- c. Frequency (Hz).
- d. Real power (W/kW).
- e. Reactive power (VAR/kVAR).
- f. Apparent power (VA/kVA).
- g. Power factor.
- h. Duty Level: Actual load as percentage of rated power.
- i. Engine speed (rpm).
- j. Battery voltage (VDC).
- k. Engine oil pressure.
- l. Engine coolant temperature.
- m. Engine runtime (kW hours).
- n. Ambient temperature.
- o. Power factor total and per phase with leading/lagging indication.
- p. kW total and per phase, 0.5 percent accuracy.
- q. kVAR total and per phase, 0.5 percent accuracy.
- r. kVA total and per phase, 0.5 percent accuracy.
- s. kW hours.
- t. Generator duty level (actual kW loading divided by kW nameplate).

5. Generator Set Protection and Warning/Shutdown Indications - Viewable During Operation from Control Panel:

- a. Comply with NFPA 110; configurable for NFPA 110, Level 1 or Level 2 or NFPA 99 systems, including the following protections/indications:

Overcrank (shutdown).

Low coolant temperature (warning).

High coolant temperature (warning).
High coolant temperature (shutdown).
Low oil pressure (warning).
Low oil pressure (shutdown).
Overspeed (shutdown).
Low coolant level (warning/shutdown).
Generator control not in automatic mode (warning).
High battery voltage (warning).
Low cranking voltage (warning).
Low battery voltage (warning).
Battery charger failure (warning).

b. In addition to NFPA 110 requirements, provide the following protections/indications:

High AC voltage (shutdown).
Low AC voltage (shutdown).
High frequency (shutdown).
Low frequency (shutdown).
Overcurrent (shutdown).
Engine control module (ECM) digital trouble codes (warnings).
Engine control module (ECM) digital trouble codes (shutdowns).
Loss of engine control module (ECM) communications (shutdown).
Engine control module (ECM) mismatch (shutdown).
Local manual stop (shutdown).
Alternator protection (shutdown).
Overcurrent (warning).
Under frequency (warning).
Over frequency (warning).
Over power (warning).
Over power (shutdown).

Undervoltage (warning).

Overvoltage (warning).

User-defined input (warning).

User-defined input (shutdown).

No oil pressure signal (shutdown).

No speed sensor signal (shutdown).

Fail-to-start (shutdown).

- c. Provide contacts for local and remote common alarm.
 - d. Provide lamp test function that illuminates indicator lamps.
6. Other Control Panel Features:
- a. Event log.
 - b. Service Data: Stored in controller and available for display.
 - Generator model number and serial number.
 - Engine control module (ECM) serial number.
 - Alternator part number.
 - Engine model number and serial number.
 - Controller serial number and firmware version.
 - c. Operational Records: Stored in controller beginning at system startup.
 - Total runtime hours.
 - Total loaded hours.
 - Total unloaded hours.
 - Total kW hours.
 - Controller hours.
 - Controller runtime hours.
 - Engine control module (ECM) runtime hours.
 - Number of starts.
 - Number of crank attempts.
 - Last crank duration.
 - Last start runtime duration.
 - Last start date and time.

Last stop date and time.

- d. Maintenance Records: Stored in controller beginning at system startup, user resettable to zero.

Total runtime hours since last maintenance.

Total loaded hours since last maintenance.

Total unloaded hours since last maintenance.

Total kW hours since last maintenance.

C. Remote Annunciator:

1. Remote Annunciator Mounting: Wall-mounted; provide flush-mounted annunciator for finished areas and surface-mounted annunciator for unfinished areas unless otherwise indicated.
2. Generator Set Status Indications:
 - a. Generator powering load via position signal from transfer switch.
 - b. Communication functional.
3. Generator Set Warning/Shutdown Indications:
 - a. Comply with NFPA 110; configurable for NFPA 110, Level 1 or Level 2 or NFPA 99 systems, including the following indications:

Warning:

Low coolant temperature.

High coolant temperature.

Low oil pressure.

Low coolant level.

Generator control not in automatic mode.

High battery voltage.

Low cranking voltage.

Low battery voltage.

Battery charger failure.

Shutdown:

Overcrank.

High coolant temperature.

Low oil pressure.

Overspeed.

Low coolant level.

- b. Provide audible alarm with silence function.
- c. Provide lamp test function that illuminates indicator lamps.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify field measurements.
- B. Verify ratings and configurations of generator sets and auxiliary equipment are consistent with indicated requirements.
- C. Verify rough-ins for field connections.
- D. Verify mounting surfaces are ready to receive equipment.
- E. Verify conditions for installation prior to starting work.

3.2 INSTALLATION

- A. Perform work in accordance with NECA 1.
- B. Install products in accordance with manufacturer's instructions.
- C. Install generator sets and associated accessories in accordance with NECA/EGSA 404.
- D. Arrange equipment to provide minimum clearances and required maintenance access.
- E. Provide support and attachment.
- F. Provide vibration isolation and seismic controls.
- G. Use manufacturer's recommended oil and coolant, suitable for worst-case ambient temperatures.
- H. Provide natural gas piping in accordance with manufacturer's requirements.
- I. Provide duct for cooling air intake/exhaust.
- J. Provide engine exhaust piping where not factory-installed.
 - 1. Include required piping expansion joints, piping insulation, thimble, condensation trap/drain, rain cap, and hangers/supports.
 - 2. Do not exceed manufacturer's maximum back pressure requirements.
- K. Do not insulate piping for engine components restricted by manufacturer.
- L. Install exhaust silencer where not factory-installed.
- M. Provide grounding and bonding in accordance with NFPA 70.
- N. Identify system wiring and components.

3.3 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements for additional requirements.
- B. Provide services of manufacturer's authorized representative to prepare and start systems and perform inspection and testing. Include manufacturer's detailed testing procedures and field reports with submittals.
- C. Notify Owner and Architect at least two weeks prior to scheduled inspections and tests.
- D. Notify authorities having jurisdiction and comply with requirements for scheduling inspections and tests and for observations.
- E. Provide equipment, tools, and supplies required to accomplish inspection and testing, including load bank and fuel.
- F. Preliminary inspection and testing to include, minimum:
 - 1. Inspect each system component for damage and defects.
 - 2. Verify tightness of mechanical and electrical connections meets manufacturer's recommended torque settings.
 - 3. Check for proper oil and coolant levels.
- G. Prepare and start system in accordance with manufacturer's instructions.

- H. Perform acceptance test in accordance with NFPA 110.
- I. Inspection and testing to include, minimum:
 - 1. Verify compliance with starting and load acceptance requirements.
 - 2. Verify voltage and frequency; make required adjustments.
 - 3. Verify phase sequence.
 - 4. Verify control system operation, including safety shutdowns.
 - 5. Verify operation of auxiliary equipment and accessories (e.g., battery charger and heaters).
 - 6. Perform load tests in accordance with NFPA 110 1.5-hour building load test followed by 2-hour full load test.
- J. Provide field emissions testing where necessary for certification.
- K. Correct defective work, adjust for operation, and retest until system complies with Contract Documents.

3.4 CLOSEOUT ACTIVITIES

- A. Demonstrate operation of system to Owner's designated representative; correct identified deficiencies and make required adjustments.
- B. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
 - 1. Use operation and maintenance manual as training reference, supplemented with additional required training materials.
 - 2. Instructor: Manufacturer's authorized representative.
 - 3. Location: At project site.

END OF SECTION 26 32 13.16

SECTION 26 43 00 - SURGE PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Surge protective devices for service entrance locations.
- B. Surge protective devices for distribution locations.
- C. Surge protective devices for branch panelboard locations.

1.2 ABBREVIATIONS AND ACRONYMS

- A. EMI/RFI: Electromagnetic Interference/Radio Frequency Interference.
- B. SPD: Surge Protective Device.

1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- B. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.
- C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 1449 - Standard for Surge Protective Devices; Current Edition, Including All Revisions.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Include detailed component information, voltage, surge current ratings, repetitive surge current capacity, voltage protection rating (VPR) for all protection modes, maximum continuous operating voltage (MCOV), nominal discharge current (I-n), short circuit current rating (SCCR), connection means including any required external overcurrent protection, enclosure ratings, outline and support point dimensions, weight, service condition requirements, and installed features.
- C. Operation and Maintenance Data: Include information on status indicators and recommended maintenance procedures and intervals.
- D. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.5 DELIVERY, STORAGE, AND PROTECTION

- A. Store in a clean, dry space in accordance with manufacturer's written instructions.

1.6 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.7 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Manufacturer's Warranty: Provide minimum five year warranty covering repair or replacement of surge protective devices showing evidence of failure due to defective materials or workmanship.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Factory-installed, Internally Mounted Surge Protective Devices:
 - 1. Same as manufacturer of equipment containing surge protective device, to provide a complete listed assembly including SPD.

2.2 ALL SURGE PROTECTIVE DEVICES

- A. Description: Factory-assembled surge protective devices (SPDs) for 60 Hz service, listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated; system voltage as indicated on the drawings.
- B. Protected Modes:
 - 1. Wye Systems: L-N, L-G, N-G, L-L.
 - 2. Delta Systems: L-G, L-L.
 - 3. High Leg Delta Systems: L-N, L-G, N-G, L-L.
- C. UL 1449 Voltage Protection Ratings (VPRs):
 - 1. Equivalent to basis of design.
- D. UL 1449 Maximum Continuous Operating Voltage (MCOV): Not less than 115% of nominal system voltage.
- E. Enclosure Environment Type per NEMA EN 10250: Unless otherwise indicated, as specified for the following installation locations:
- F. Equipment Containing Factory-installed, Internally Mounted SPDs: Listed and labeled as a complete assembly including SPD.

2.3 SURGE PROTECTIVE DEVICES FOR SERVICE ENTRANCE LOCATIONS

- A. Unless otherwise indicated, provide factory-installed, internally mounted SPDs.
- B. List and label as complying with UL 1449, Type 1 when connected on line side of service disconnect overcurrent device and Type 1 or 2 when connected on load side of service disconnect overcurrent device.
- C. Provide SPDs utilizing field-replaceable modular or non-modular protection circuits.
- D. Surge Current Rating: Not less than 240 kA per mode/480 kA per phase.
- E. UL 1449 Nominal Discharge Current (I-n): 20 kA.
- F. UL 1449 Short Circuit Current Rating (SCCR): Not less than the available fault current at the installed location as indicated on the drawings.
- G. Diagnostics:
 - 1. Protection Status Monitoring: Provide indicator lights to report the protection for each phase.
 - 2. Alarm Notification: Provide indicator light and audible alarm to report alarm condition. Provide button to manually silence audible alarm.

2.4 SURGE PROTECTIVE DEVICES FOR DISTRIBUTION LOCATIONS

- A. Unless otherwise indicated, provide factory-installed, internally mounted SPDs.
- B. List and label as complying with UL 1449, Type 1 or Type 2.
- C. Provide SPDs utilizing field-replaceable modular or non-modular protection circuits.
- D. Surge Current Rating: Not less than 120 kA per mode/240 kA per phase.
- E. UL 1449 Nominal Discharge Current (I-n): 20 kA.
- F. UL 1449 Short Circuit Current Rating (SCCR): Not less than the available fault current at the installed location as indicated on the drawings.
- G. Diagnostics:
 - 1. Protection Status Monitoring: Provide indicator lights to report the protection status for each phase.
 - 2. Alarm Notification: Provide indicator light and audible alarm to report alarm condition. Provide button to manually silence audible alarm.

2.5 SURGE PROTECTIVE DEVICES FOR BRANCH PANELBOARD LOCATIONS

- A. Unless otherwise indicated, provide factory-installed, internally mounted SPDs.

- B. List and label as complying with UL 1449, Type 1 or Type 2.
- C. Provide SPDs utilizing field-replaceable modular or non-modular protection circuits.
- D. Surge Current Rating: Not less than 120 kA per mode/240 kA per phase.
- E. UL 1449 Nominal Discharge Current (I-n): 20 kA.
- F. UL 1449 Short Circuit Current Rating (SCCR): Not less than the available fault current at the installed location as indicated on the drawings.
- G. Diagnostics:
 - 1. Protection Status Monitoring: Provide indicator lights to report the protection status.
 - 2. Alarm Notification: Provide indicator light and audible alarm to report alarm condition. Provide button to manually silence audible alarm.

PART 3 - EXECUTION

3.1 INSTALLATION

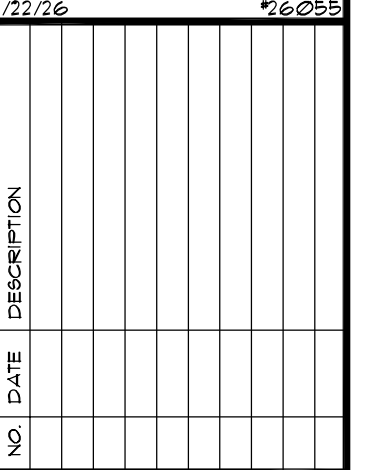
- A. Perform work in a neat and workmanlike manner in accordance with NECA 1.
- B. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- C. Do not energize SPD until bonding of neutral and ground for service entrance and separately derived systems is complete in accordance with Section 26 05 26 where applicable. Replace SPDs damaged by improper or missing neutral-ground bond.

END OF SECTION 26 43 00

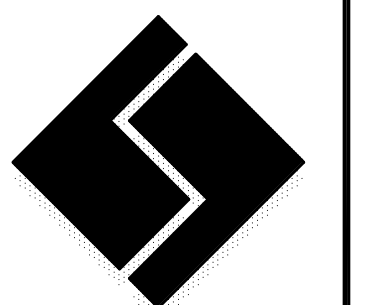
ENGINEER PROJECT NO. 26055
JULY 15, 2026



DRAWING INDEX:	
T001	- TITLE SHEET
E001	- ELECTRICAL SYMBOLS, DETAILS, & SCHEDULES
E101	- SITE ELECTRICAL PLAN



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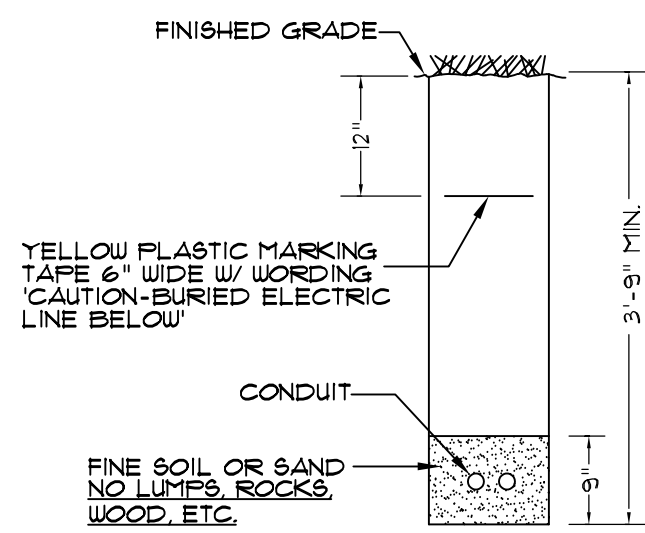
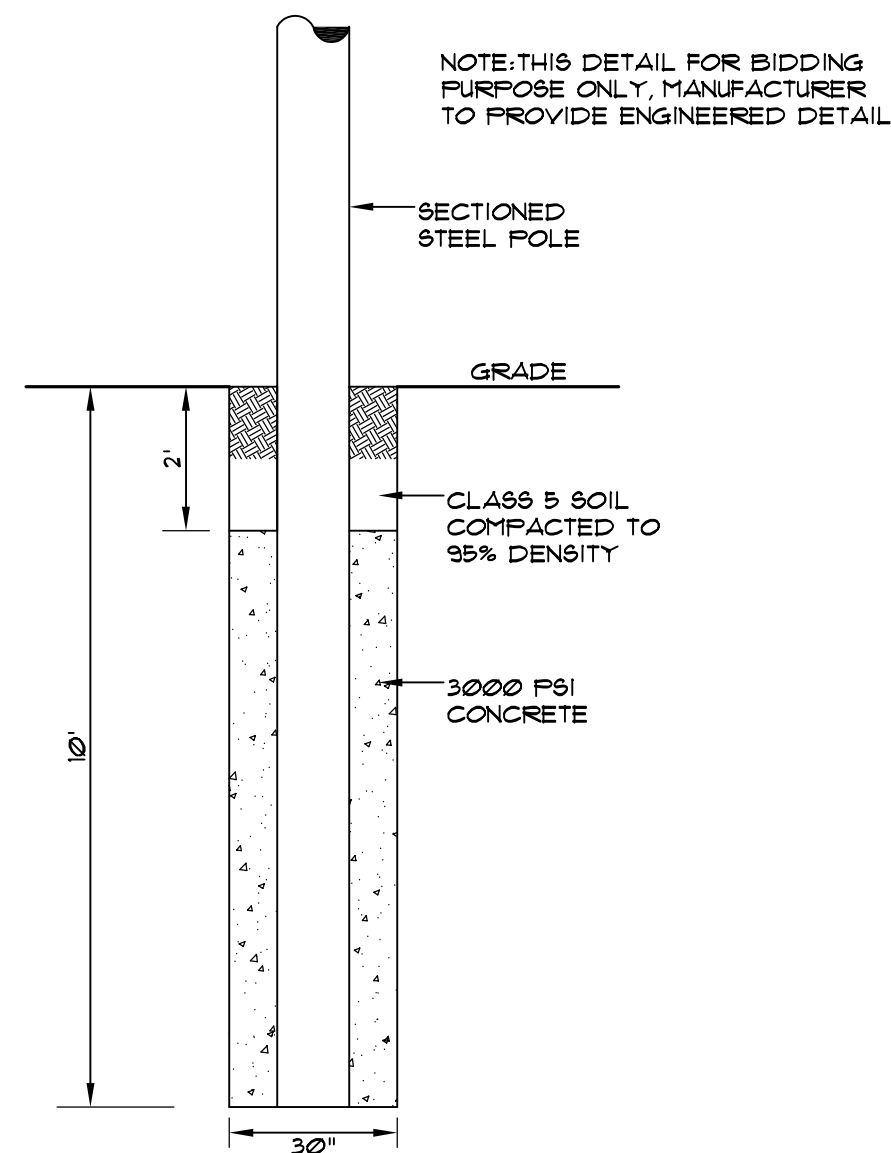
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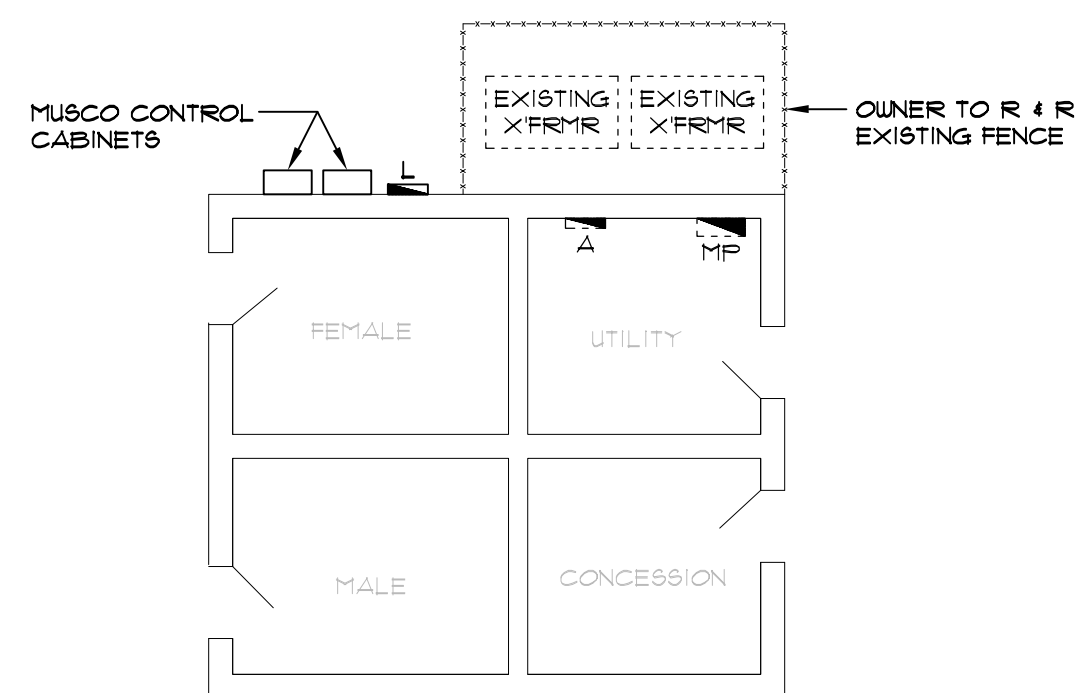
TITLE SHEET

CONSTRUCTION DOCUMENTS

Г001

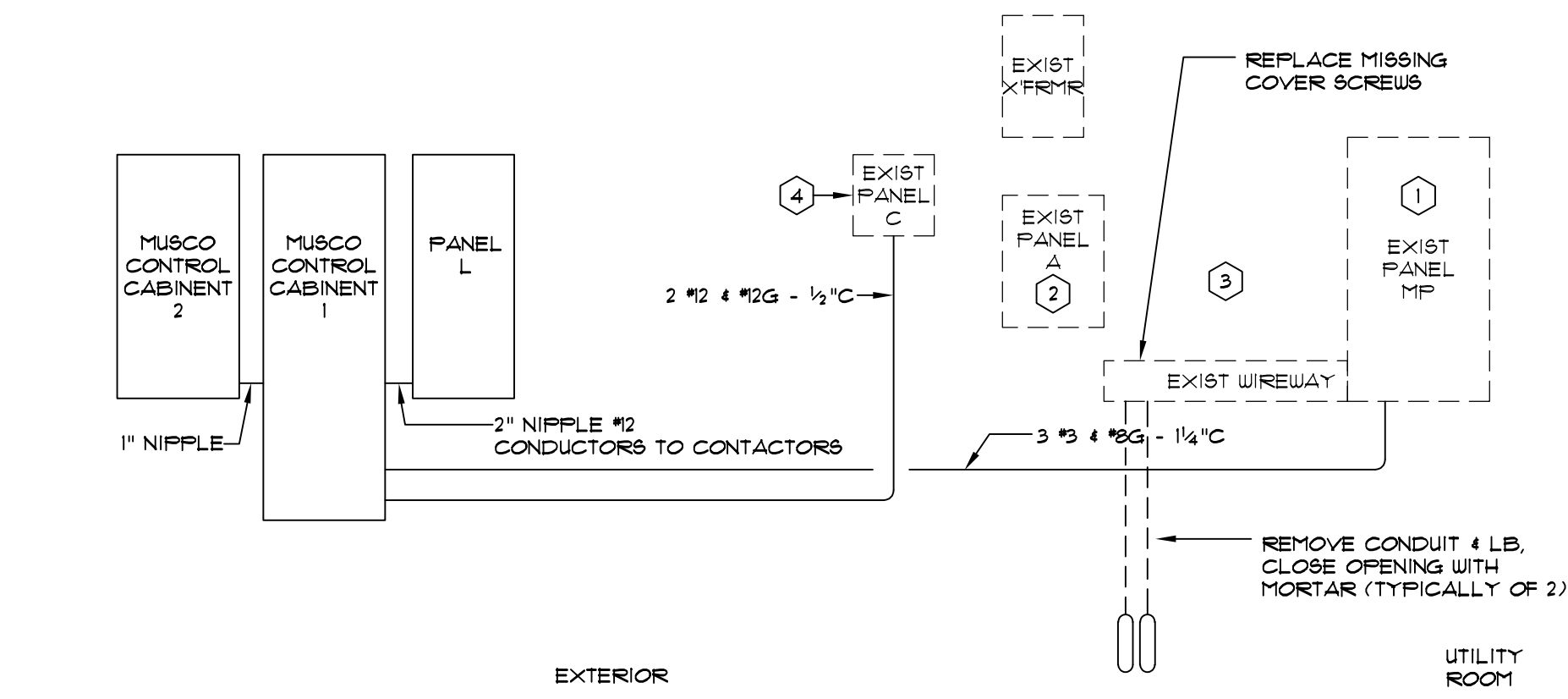


1. CONTRACTOR TO REMOVE EXISTING FIELD LIGHTING POLES AND DISPOSE OF.
2. CONTRACTOR TO REMOVE ANY PORTION OF EXISTING POLE FOUNDATIONS THAT ARE ABOVE GRADE AND GRIND OFF EXISTING ANCHOR BOLTS. DO NOT LEAVE IN A MANNER THAT POSES A RISK TO THE PUBLIC OR LAWN EQUIPMENT.

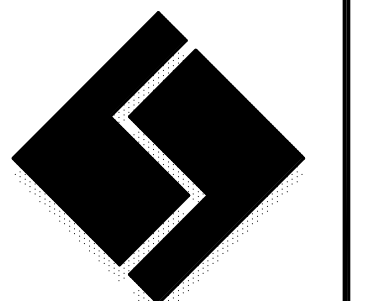
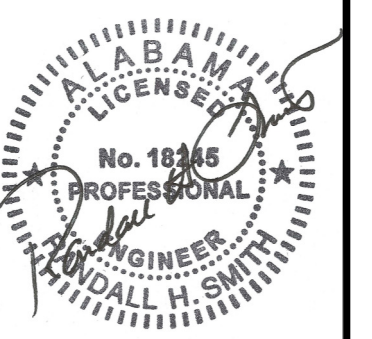


FIELD	POLE	HEIGHT (FT)	LUMINAIRE QUANTITY	LUMINAIRE MTG HT(FT)	MUSCO LUMINAIRE TYPE	DESIGN LOAD(A)	FEDDER
1	A1/A2	60'	3	60'	TLC-LED-550	3.66	3 * 10 4 * 100G - 1 1/4" C PANEL L VIA CONTROL CAB 1
			1	15.5'	TLC-BT-515		
			2	70'	TLC-LED-1200		
	B1/B2	70'	1	70'	TLC-LED-1500	1.0	3 * 10 4 * 100G - 1" C PANEL L VIA CONTROL CAB 1
			1	15.5'	TLC-BT-515		
2	A3/A4	60'	3	60'	TLC-LED-550	3.66	3 * 10 4 * 100G - 1" C PANEL L VIA CONTROL CAB 1
			1	15.5'	TLC-BT-515		
	B3/B4	70'	3	70'	TLC-LED-1500	1.54	3 * 10 4 * 100G - 1 1/4" C PANEL L VIA CONTROL CAB 1
			1	15.5'	TLC-BT-515		
			1	60'	TLC-LED-550		
3	A4	60'	1	60'	TLC-LED-3000	3.16	3 * 10 4 * 100G - 1" C PANEL L VIA CONTROL CAB 1
			1	60'	TLC-LED-3000		
			1	15.5'	TLC-BT-515		
	A6	60'	1	60'	TLC-LED-550	3.16	3 * 10 4 * 100G - 1" C PANEL L VIA CONTROL CAB 1
			1	60'	TLC-LED-3000		
			1	60'	TLC-LED-3000		
	B5/B6	60'	1	60'	TLC-LED-1200	7.01	3 * 10 4 * 100G - 1 1/4" C PANEL L VIA CONTROL CAB 1
			1	60'	TLC-LED-550		
			2	60'	TLC-LED-3000		
			1	15.5'	TLC-BT-515		
	C5/C6	60'	1	60'	TLC-LED-1200	1.11	3 * 10 4 * 100G - 1 1/4" C PANEL L VIA CONTROL CABINET 2
			3	60'	TLC-LED-3000		
			1	15.5'	TLC-BT-515		

- 1 UTILIZE EXISTING 100/3 TO FEED NEW PANEL L, INSTALL FILLER PLATES TO COVER EXPOSED BUSBAR
- 2 UTILIZE EXISTING SCOREBOARD BREAKERS FOR NEW CIRCUITS
- 3 REMOVE ALL ELECTRICAL ITEMS RELATED TO EXISTING FIELD LIGHTING, REMOVE CONDUCTORS, CLOSE OPENINGS, AND UPDATE PANEL DIRECTORY
- 4 INSTALL 20/1, 10K AIC BREAKER FOR NEW CONTROL CIRCUIT



DIRECTORY	WATTS LOAD			CKT NO.	BRKR AMPS		BRKR AMPS	CKT NO.	WATTS LOAD			DIRECTORY
	L1	L2	L3						L1	L2	L3	
POLE A1	1015			1	20/3		20/3	2	1940			POLE B1
		1015								1940		
			1015								1940	
POLE A2	1015			3	20/3		20/3	4	1940			POLE B2
		1015								1940		
			1015								1940	
POLE A3	1015			5	20/3		20/3	6	2090			POLE B3
		1015								2090		
			1015								2090	
POLE A4, FIELD 2	1015			7	20/3		20/3	8	2090			POLE B4
		1015								2090		
			1015								2090	
POLE A4, FIELD 3	875			9	20/3		20/3	10	1765			POLE B5
		875								1765		
			875								1765	
POLE A6	875			11	20/3		20/3	12	1940			POLE B6
		875								1940		
			875								1940	
POLE C5	1975			13	20/3		20/3	14	2150			POLE C6
		1975								2150		
			1975								2150	
SUB-TOTALS:	7785	7785	7785						13915	13915	13915	SUB-TOTALS
VOLTAGE: — 480V, 3 PH, 3W				MAIN BUS: 100 — A.		TOTAL WATTS, LINE 1		21700		PANEL NO.	L	
MAIN: MLO, BOTTOM						TOTAL WATTS, LINE 2		21700				
MOUNTING: — NEMA 3R						TOTAL WATTS, LINE 3		21700				
NOTES: — 35K AIC, 120KA INTEGRAL SPD						TOTAL WATTS		65100		LOC	EXTERIOR	

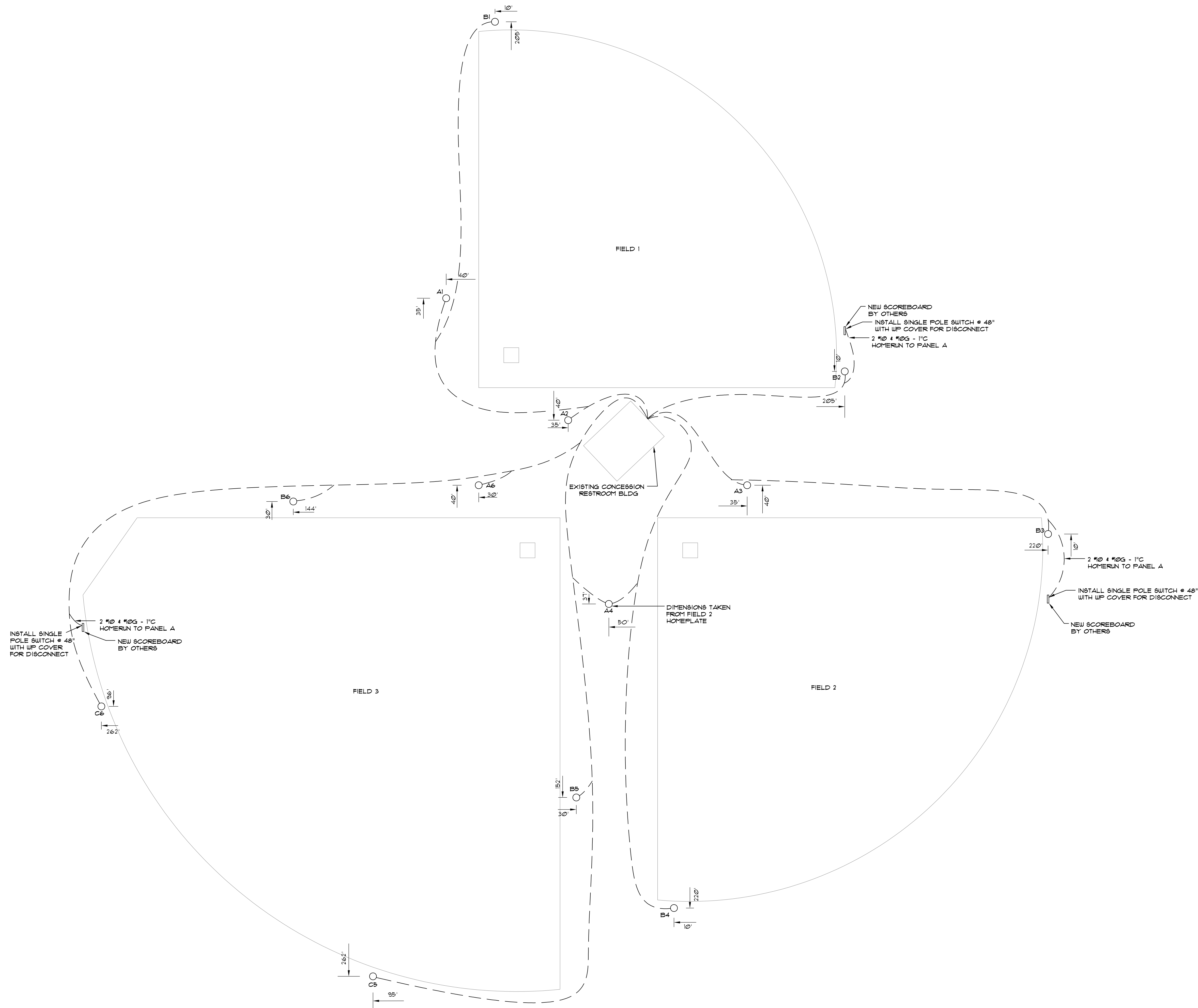


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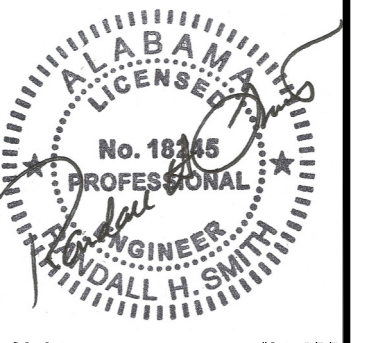
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**ELECTRICAL
SYMBOLS,
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E001

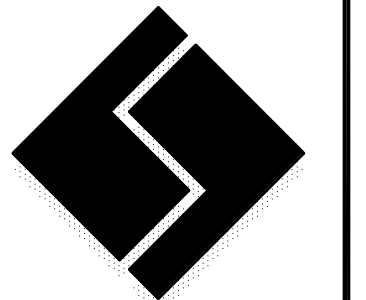


 **SITE ELECTRICAL PLAN**
SCALE: 1" = 30'-0"



REVISION NO.	DATE	DESCRIPTION

**MCDONALD HUGHES
SOFTBALL FIELDS**
3101 MARTIN LUTHER KING BLVD
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E101